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Mortality From Diseases Associated With Smoking: United States, 1960-77

A continuation of the analysis of mortality trends by age, race, and sex for diseases associated with tobacco smoking. The first report on these trends covered the years 1950-64 and was published in 1966.

Data From the National Vital Statistics System, Series 20, No. 17

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Symbols

---	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standards of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

Mortality From Diseases Associated With Smoking

By A. Joan Klebba, M.A., Division of Vital Statistics

Introduction

Extensive studies using epidemiological, experimental, and clinical methods have been made on the effects of tobacco on health. In 1962, the Advisory Committee on Smoking and Health appointed by the Surgeon General of the Public Health Service reviewed and evaluated the studies available at that time and presented the results in the report *Smoking and Health*,[1] issued in 1964. In their report the Advisory Committee weighed the evidence of the relationship of smoking, particularly of cigarettes, to Malignant neoplasm of trachea, bronchus, and lung and to a number of other diseases.

As a result of various activities that were undertaken following the publication of *Smoking and Health*[1] and the interest in measuring the long-range effects of programs to stop the rise in mortality during the productive years of life from Malignant neoplasm of trachea, bronchus, and lung and from other diseases linked with cigarette smoking, it was considered desirable to pay special attention to current and future mortality trends from these diseases. In 1966, the National Center for Health Statistics published a report[2] on mortality associated with smoking, which was designed to lay the foundation for the long-range observation of these trends. This report was divided into two major sections: (1) the trends of mortality from diseases that the Surgeon General's Advisory Committee considered to be causally related to smoking, and (2) the trends of mortality from diseases that the Advisory Committee considered to be associated with but not clearly causally related to smoking. It covered the 1950-64 period.

The 18 years (1964-81) of additional research under succeeding Surgeons General strengthened the conclusion that smoking is causally related to the four diseases noted in the first report by the Surgeon General in 1964: (1) Malignant neoplasm of trachea, bronchus, and lung, (2) Malignant neoplasm of larynx, (3) Malignant neoplasm of lip, and (4) Chronic and unqualified bronchitis.[3,4] This additional research also determined the following four diseases, which formerly were considered only associated with smoking, to be causally related to smoking: (1) Ischemic heart disease; (2) Emphysema and chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema; (3) Malignant neoplasm of buccal cavity and pharynx, excluding lip; and (4) Malignant neoplasm of esophagus. The research added two more diseases—Malignant neoplasm of pancreas and Malignant neoplasm of kidney—to the list of diseases that are classified as at least associated with smoking. The list includes three diseases that have continued to be identified since the earlier report as associated with smoking but not causally related to smoking: Peptic ulcer, Malignant neoplasm of bladder, and Specified noncoronary cardiovascular diseases.

Cirrhosis is included in this report for continuity and comparison. In the first report on *Smoking and Health* it was noted that the data available from prospective studies were not sufficient to support a direct or causal association between Cirrhosis of liver (ICDA No. 581) and smoking. It also was noted that the increased death rate observed at that time "may reflect the consumption of alcohol and associated nutritional deficiencies rather than the effect of cigarette smoking."[1] A more recent report of the Surgeon General reiterates this association: "The association of cigarette smoking with cirrhosis is an indirect one. There is a strong correlation of cigarette smoking with the use of alcoholic beverages, which in turn causes cirrhosis."[3]

In this report mortality trends for the 12 diseases included in the first report are presented for ease of comparison in the same order as in that report. They are followed by trends for the two diseases more recently identified as associated with smoking.

The detailed tables in the first report show data for 1950-64, and those presented here show data for 1960-77. Rates for the early 1960's are presented again because the U.S. Bureau of the Census revised

the estimates of the population on which the rates in the first report were based. To enable the reader to follow the mortality trends for these causes from 1950 through 1977, data for 1950-59 are included in the text tables.

Herein, as in the earlier report, data for all causes combined (table 1) and for each of the specified causes of death are analyzed by age, race, and sex (tables 2-15). These trend data are based on information from all death certificates from the 50 States and the District of Columbia, except for 1972. For that year the data are based on a 50-percent sample of these certificates. Separate trend figures are presented for 10-year age groups for persons aged 25 years and over. Age-adjusted rates are also included.

Rates for the total population and for each race-sex group were adjusted separately by using the same standard population.

Because most of the earlier studies reviewed by the Surgeon General's Advisory Committee referred to men, all of the statistics in this and the previous report are shown separately for men. Because the Committee concluded that the limited data on women pointed in the same direction as that for men, data for women were also shown in the first report for a number of the major causes of death associated with smoking. Evidence from major prospective studies accumulated in the ensuing years confirmed that death rates for a number of diseases–including Malignant neoplasm of trachea, bronchus, and lung; Ischemic heart disease; and Emphysema–as well as overall mortality are significantly greater among women who smoke than among those who do not smoke.[4,5] In the present report data are shown separately for each of the four race-sex groups for the entire list of 14 causes of death associated with smoking.

Because of the unavailability of separate long-term age-sex-cause specific death rates for the black population and for other minority races (Chinese, Japanese, American Indians, and other races), most of the data are only for the male and female groups of the two populations white and "all other." The black population made up 92.1 percent of the "all other" population for 1960 (18,871,831 out of 20,491,443) and 86.7 percent for 1977 (an estimated 25,112,000 out of 28,967,000). The death rates for the "all other" population can, in general, be considered as minimal estimates of the actual rates for the black population. Examination of the 1977 death rates for the important diseases associated with smoking shows that the rates for the black population were higher for these causes than the corresponding rates for the other races included in the "all other" population (table A).

During 1950-77, the total period covered by this and the earlier report on mortality associated with smoking, causes of death were classified according to three revisions of the International Classification of Diseases (ICD). These revisions are made about every 10 years to reflect progress in medical knowledge. The revision used in the United States beginning with data year 1968 is the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA).[6]

The years that these three revisions were in use during the period covered by these two reports on mortality associated with smoking were as follows: Eighth Revision, 1968-77; Seventh Revision, 1958-67; and Sixth Revision, 1950-57.

Table A. Age-adjusted death rates for specified causes linked with smoking, for all races other than white and for the black race: United States, 1977

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA). The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics. For method of age-adjustment, see appendix I]

Cause of death		*All races other than white*	*Black race*
		Rate per 100,000 population	
Malignant neoplasm of lip	140	0.0	0.0
Malignant neoplasm of buccal cavity and pharynx, excluding lip	141-149	4.5	4.9
Malignant neoplasm of esophagus	150	7.1	7.9
Malignant neoplasm of larynx	161	1.9	2.1
Malignant neoplasm of trachea, bronchus, and lung	162	38.4	41.5
Malignant neoplasm of bladder	188	2.7	3.0
Ischemic heart disease	410-413	194.2	209.2
Chronic and unqualified bronchitis	490, 491	0.9	0.9
Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema	492, *519.3	8.1	8.5
Peptic ulcer	531-533	2.0	2.1
Cirrhosis of liver	571	22.5	23.6
Malignant neoplasm of pancreas	157	8.3	8.9
Malignant neoplasm of kidney	189.0-189.2	2.0	2.1

Introduction of the Seventh Revision for data year 1958 resulted in discontinuity of mortality statistics for some of the causes shown in this report. For the most part, however, these breaks were not so large as those resulting from the introduction of the Eighth Revision. The important breaks in continuity resulting from changes in revisions are described in the sections for the causes for which the mortality trend was disrupted.

To avoid the impact of serious discontinuities, changes in acceleration or deceleration for the appreciably affected death rates were computed separately for the three periods (1950-57, 1958-67, and 1968-77) for which the Sixth, Seventh, and Eighth Revisions were used. For causes with only negligible breaks in comparability of mortality statistics, especially those with low frequencies, percent changes in death rates and other measures are presented for the entire 28-year period 1950-77.

Unless otherwise stated all titles of cause of death in this report are those of the Eighth Revision of the ICD that was adapted for use in the United States (ICDA).

A summary of the principal findings in this study is followed by detailed findings for each of the 14 causes of death related to smoking. Changes in smoking patterns are discussed in appendix III.

Summary

In successive reports on smoking and health issued by the Surgeon General, 14 diseases were identified for which mortality was considered to be related to smoking. This report examines trends for these 14 groups for 1950-77 and updates an earlier National Center for Health Statistics (NCHS) report[2] that showed trends for 12 of these cause groups for 1950-64.

The eight diseases considered to be causally related to smoking (particularly cigarette smoking) are (1) Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162); (2) Malignant neoplasm of larynx (ICDA No. 161); (3) Malignant neoplasm of lip (ICDA No. 140); (4) Chronic and unqualified bronchitis (ICDA Nos. 490, 491); (5) Ischemic heart disease (ICDA Nos. 410-413); (6) Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema (ICDA No. 492 and NCHS No. *519.3[a]); (7) Malignant neoplasm of esophagus (ICDA No. 150); and (8) Malignant neoplasm of buccal cavity and pharynx, excluding lip (ICDA Nos. 141-149). Between 1950 and 1977 the trend of the age-adjusted death rate was upward for the first of these causes, relatively stable for the second and third, downward for the fourth and fifth groups of causes, and upward for the remaining three groups.

- The rate of increase in mortality for Malignant neoplasm of trachea, bronchus, and lung diminished during the 1950-77 period. The average annual rates of increase for the age-adjusted rates for this group of causes declined from 5.2 percent for 1950-57; to 4.0 percent for 1958-67; to 3.1 percent for 1968-77. This slowing in the rate of increase reflects the experience of the male population. For some of the younger age groups of the male population there has been an actual decline in mortality from this cause. In contrast, for females the rate of increase accelerated during this period.
- There was a negligible increase between 1950 and 1977 in the age-adjusted death rate for Malignant neoplasm of larynx.
- For Malignant neoplasm of lip, which rarely causes death, there was little fluctuation in the age-adjusted death rate between 1950 and 1977.
- Bronchitis is one of those chronic diseases that is not often fatal alone, but when combined with another serious disease increases the risk of death. For Chronic and unqualified bronchitis the age-adjusted rate declined during 1968-77, after having increased during 1950-67.
- The upward trend for Ischemic heart disease was reversed during 1963-64 of the 28 years studied. The average annual percent decrease between 1973 and 1977 (4.1 percent) was more than twice that between 1968 and 1972 (1.9 percent).
- The age-adjusted death rate for Emphysema and Chronic obstructive lung disease rose almost without interruption during 1950-77, but at a decelerating rate.
- The age-adjusted death rate for Malignant neoplasm of esophagus rose from 2.3 to 2.6 per 100,000 population.
- Between 1950 and 1967, the age-adjusted death rate for Malignant neoplasm of buccal cavity and pharynx, excluding lip, remained quite stable, with a rate of 2.8 per 100,000 for 1950 and 1967; but between 1968 and 1977, it increased from 2.9 to 3.1 per 100,000 population.

The six causes or groups of causes considered to be statistically related to smoking are (1) Cirrhosis of liver (ICDA No. 571); (2) Peptic ulcer (ICDA Nos. 531-533); (3) Malignant neoplasm of bladder (ICDA No. 188); (4) Five specified noncoronary cardiovas-

[a]The asterisk indicates that this title was not included in ICDA, but was introduced by NCHS.

cular diseases, for which the category numbers according to the Eighth Revision are (202, 404), (424, 428), (420-423, 425-427, 429), (440), and (441-448, 450-458); (5) Malignant neoplasm of pancreas (ICDA No. 157); and (6) Malignant neoplasm of kidney (ICDA Nos. 189.0-189.2). The age-adjusted death rate decreased for the first four of these six causes for at least the later years if not for the entire period 1950-77.

- The age-adjusted death rate for Cirrhosis of liver peaked in 1973 and then declined each succeeding year.
- The age-adjusted death rate for Peptic ulcer, a disease causing relatively low mortality, increased slightly between 1950 and 1957 and then began to decline at an accelerated rate. It fell a little over 25 percent between 1958 and 1967 and a little over 50 percent between 1968 and 1977.
- The age-adjusted death rate for Malignant neoplasm of bladder declined 21.6 percent between 1950 and 1977.
- The age-adjusted death rate for four of the five specified noncoronary cardiovascular diseases decreased between 1968 and 1977. The exception was All other forms of heart disease (ICDA Nos. 420-423, 425-427, 429). Part of the increase in this cause is attributable to the aging of the population; the unadjusted and age-adjusted rates increased, respectively, 74 and 54 percent.

The age-adjusted rates for the remaining two groups of causes statistically related to smoking showed slightly different trends.

- The age-adjusted death rate for Malignant neoplasm of pancreas rose between 1950 and 1968, from 5.3 per 100,000 to a record high of 6.8 and, between 1969 and 1977, remained quite stable at about 6.7.
- The age-adjusted death rate for Malignant neoplasm of kidney increased slowly between 1950 and 1977, from 2.2 to 2.6 per 100,000.

Mortality from diseases related to smoking

Malignant neoplasm of trachea, bronchus, and lung

Total mortality.—The number of deaths from Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) totaled 1,362,184 for 1950-77—with 194,694 deaths for 1950-57, 427,117 deaths for 1958-67, and 740,373 deaths for 1968-77.

The percent increase between 1950 and 1957 in the total death rate for this cause was 48.4—with the death rate rising during this 8-year period from 12.2 to 18.1 per 100,000 (pp. 31-33[2]). This percent increase remained the same for the next 10-year period (1958-67), with the death rate rising from 18.6 to 27.6 per 100,000 (pp. 31-33[2] and table 2). For the following 10-year period (1968-77), however, the percent increase declined to 40.3, with the death rate rising from 29.8 to 41.8 per 100,000. For these same periods the average annual percent increase declined from 5.8 for 1950-57 to 4.5 for 1958-67 and to 3.8 for 1968-77.

No substantial part of these increases may be attributed to the variation in the age composition of the population. For age-adjusted death rates the corresponding percent increases were 42.3 for 1950-57—with the age-adjusted death rate rising from 11.1 to 15.8 per 100,000; 42.3 for 1958-67—with the rate rising from 16.3 to 23.2 per 100,000; and 31.3 for 1968-77—with the rate rising from 24.9 to 32.7 per 100,000 (pp. 31-33[2] and tables B and 2).

The average annual percent increase for age-adjusted death rates declined from 5.2 for 1950-57 to 4.0 for 1958-67 and to 3.1 for 1968-77 (table C). Part of the out-of-line increase of 8.0 percent in the total death rate for Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) between 1967 and 1968 is attributable to the introduction of the Eighth Revision.[6] Changes in classification and coding procedures resulted in a comparability ratio of 1.0316 (obtained by dividing the number of deaths assigned to this cause by the Eighth Revision by the number assigned by the Seventh Revision).

Race and sex.—The above-stated increases for the total population in the age-adjusted death rate for Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) for 1950-57, 1958-67, and 1968-77 reflect increases in the rates for each of the four race-sex groups. The percent increases for 1958-67 and 1968-77, however, were smaller for the white male group than for the other three race-sex groups.

The largest percent increases between 1968 and 1977 were 79.5 for the white female group and 78.3 for the all other female group.

The average annual percent increase in the age-adjusted death rate for this cause declined markedly for both male groups over the periods 1950-57, 1958-67, and 1968-77 (from 6.1 to 4.0 to 2.1 percent for the white male group; and from 8.7 to 6.2 to 3.6 percent for the all other male group). In contrast, the annual percent increase escalated substantially for both female groups over these three periods (from 1.0 to 5.5 to 6.7 percent for the white female group; and from 3.0 to 5.1 to 6.6 percent for the all other female group).

These disparate changes in mortality for Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) are reflected in the declining mortality sex ratio[b] for this cause for both the white and the all other populations (table D).

As a result of the greater increase in the age-adjusted death rate for this cause for the all other male group than for the white male group the mortality race ratio[c] for the male population increased from 0.77 for 1950 to 1.25 for 1977. On the other hand, as a result of the approximately equal increases since 1957 in the age-adjusted death rate for this cause for both female groups, the mortality race ratio for this sex remained close to 1.00 between 1957 and 1977.

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[b]The race-specific age-adjusted death rate for the specified year for the male population divided by the corresponding race-specific death rate for the female population.

[c]The sex-specific age-adjusted death rate for the specified year for the population of races other than white divided by the corresponding sex-specific rate for the white population.

Table B. Percent change in age-adjusted death rates for selected diseases related to smoking, by race and sex: United States, 1950-57, 1958-67, and 1968-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adopted for Use in the United States, 1965 (ICDA). The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics. For method of age-adjustment, see appendix I]

Cause of death[1]	Eighth Revision: 1968-77					Seventh Revision: 1958-67				
	Total	White, male	All other, male	White, female	All other, female	Total	White, male	All other, male	White, female	All other, female
	Percent									
Malignant neoplasm of trachea, bronchus, and lung 162	31.3	20.7	37.7	79.5	78.3	42.3	42.3	71.4	62.2	56.5
Malignant neoplasm of larynx 161	-	−4.5	12.9	50.0	50.0	9.1	−4.3	20.8	-	33.3
Chronic and unqualified bronchitis 490, 491	−39.1	−47.5	−58.1	−18.2	−50.0	75.0	100.0	62.5	50.0	−11.1
Ischemic heart disease 410-413	−23.4	−21.4	−22.5	−24.5	−28.5	[2]0.7	[2]3.3	[2]12.1	[2]−1.3	[2]4.5
Cirrhosis of liver 571	[3]−5.8	[3]−5.6	[3]8.3	[3]−11.8	[3]−9.1	35.4	25.5	111.2	31.7	97.3
Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema 492, *519.3	37.0	26.2	38.7	114.8	86.7	153.1	162.9	81.6	214.3	140.0
Peptic ulcer 531-533	−51.4	−53.6	−53.8	−40.0	−40.9	−26.4	−29.4	−14.9	−13.0	−20.7
Malignant neoplasm of esophagus 150	8.3	3.0	17.6	11.1	19.2	4.5	-	26.0	-	35.3
Malignant neoplasm of buccal cavity and pharynx, excluding lip 141-149	6.9	−6.4	22.2	7.1	17.6	3.7	-	43.2	8.3	20.0
Malignant neoplasm of bladder 188	−6.5	−2.0	−5.0	−6.7	−9.1	−5.9	2.0	10.0	−11.1	7.7
Malignant neoplasm of pancreas 157	−1.5	−3.5	1.0	4.0	8.2	9.8	13.2	14.1	8.9	13.2
Malignant neoplasm of kidney 189.0-189.2	4.0	5.6	−6.5	-	16.7	4.3	9.4	20.8	-	8.3

Cause of death[1]	Sixth Revision: 1950-57				
	Total	White, male	All other, male	White, female	All other, female
	Percent				
Malignant neoplasm of trachea, bronchus, and lung 162	42.3	51.1	79.9	7.5	22.9
Malignant neoplasm of larynx 161	-	-	31.3	-	-
Chronic and unqualified bronchitis 490, 491	-	14.3	14.3	−25.0	−36.4
Ischemic heart disease 410-413	14.0	14.2	30.0	14.4	25.8
Cirrhosis of liver 571	23.5	24.1	48.9	13.8	42.4
Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema 492, *519.3	300.0	[4]80.0	[4]105.9	[4]50.0	[4]100.0
Peptic ulcer 531-533	2.0	2.4	−6.3	35.3	-
Malignant neoplasm of esophagus 150	−4.3	−6.1	20.3	12.5	−11.8
Malignant neoplasm of buccal cavity and pharynx, excluding lip 141-149	-	-	24.4	-	−25.0
Malignant neoplasm of bladder 188	−5.4	−1.9	7.7	−9.1	3.7
Malignant neoplasm of pancreas 157	13.2	17.2	52.8	7.0	38.2
Malignant neoplasm of kidney 189.0-189.2	9.1	14.3	35.3	6.3	−8.3

[1]Data for Malignant neoplasm of lip (ICDA No. 140) are not shown because frequencies were too small; and data for noncoronary cardiovascular diseases (see table 13) are not shown because of serious disruptions in mortality statistics as a result of changes in classification and coding procedures between the Sixth and Seventh and between the Seventh and Eighth Revisions of the International Classification of Diseases.

[2]The reversal in the long upward trend in mortality from Arteriosclerotic heart disease, including coronary disease (ICD No. 420), the most nearly comparable cause in the Sixth and Seventh Revisions to Ischemic heart disease (ICDA Nos. 410-413) in the Eighth Revision, occurred between 1963 and 1964.

[3]The reversal in the long upward trend in mortality from Cirrhosis of liver (ICDA No. 571) occurred in 1973.

[4]Percent change for four race-sex groups is for 1954-57. Death rates by age, race, and sex are not available for 1950-53. The large percentage increases between 1950 and 1957 are based on very low death rates for this cause.

Table C. Average annual percent change in age-adjusted death rates for selected diseases related to smoking, by race and sex: United States, 1950-57, 1958-67, and 1968-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA). The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics. For method of age-adjustment, see appendix I]

Cause of death[1]	Eighth Revision: 1968-77					Seventh Revision: 1958-67				
	Total	White, male	All other, male	White, female	All other, female	Total	White, male	All other, male	White, female	All other, female
	Percent									
Malignant neoplasm of trachea, bronchus, and lung 162	3.1	2.1	3.6	6.7	6.6	4.0	4.0	6.2	5.5	5.1
Malignant neoplasm of larynx 161	-	–0.5	1.4	4.6	4.6	1.0	–0.5	2.1	-	3.2
Chronic and unqualified bronchitis 490, 491	–5.4	–6.9	–9.2	–2.2	–7.4	6.4	8.0	5.5	4.6	–1.3
Ischemic heart disease 410-413	–2.9	–2.6	–2.8	–3.1	–3.7	[2]0.1	[2]0.4	[2]1.3	[2]–0.1	[2]0.5
Cirrhosis of liver 571	[3]–0.7	[3]–0.6	[3]0.9	[3]–1.4	[3]–1.1	3.4	2.6	8.7	3.1	7.8
Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema 492, *519.3	3.6	2.6	3.7	8.9	7.2	10.9	11.3	6.9	13.6	10.2
Peptic ulcer 531-533	–7.7	–8.2	–8.2	–5.5	–5.7	–3.4	–3.8	–1.8	–1.5	–2.5
Malignant neoplasm of esophagus 150	0.9	0.3	1.8	1.2	2.0	0.5	-	2.6	-	3.4
Malignant neoplasm of buccal cavity and pharynx, excluding lip 141-149	0.7	–0.7	2.3	0.8	1.8	0.4	-	4.1	0.9	2.0
Malignant neoplasm of bladder 188	–0.7	–0.2	–0.6	–0.8	–1.1	–0.7	0.2	1.1	–1.3	0.8
Malignant neoplasm of pancreas 157	–0.2	–0.4	0.1	0.4	0.9	1.0	1.4	1.5	1.0	1.4
Malignant neoplasm of kidney 189.0-189.2	0.4	0.6	–0.7	-	1.7	0.5	1.0	2.1	-	0.9

Cause of death[1]	Sixth Revision: 1950-57				
	Total	White, male	All other, male	White, female	All other, female
	Percent				
Malignant neoplasm of trachea, bronchus, and lung 162	5.2	6.1	8.7	1.0	3.0
Malignant neoplasm of larynx 161	-	-	4.0	-	-
Chronic and unqualified bronchitis 490, 491	-	1.9	1.9	–4.0	–6.3
Ischemic heart disease 410-413	1.9	1.9	3.8	1.9	3.3
Cirrhosis of liver 571	3.1	3.1	5.9	1.9	5.2
Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema 492, *519.3	21.9	[4]8.8	[4]10.9	[4]6.0	[4]10.4
Peptic ulcer 531-533	0.3	0.3	–0.9	4.4	-
Malignant neoplasm of esophagus 150	–0.6	–0.9	2.7	1.7	–1.8
Malignant neoplasm of buccal cavity and pharynx, excluding lip 141-149	-	-	3.2	-	–4.0
Malignant neoplasm of bladder 188	–0.8	–0.3	1.1	–1.4	0.5
Malignant neoplasm of pancreas 157	1.8	2.3	6.4	1.0	4.7
Malignant neoplasm of kidney 189.0-189.2	1.3	1.9	4.4	0.9	–1.2

[1]Data for Malignant neoplasm of lip (ICDA No. 140) are not shown because frequencies were too small; and data for noncoronary cardiovascular diseases (see table 13) are not shown because of serious disruptions in mortality statistics as a result of changes in classification and coding procedures between the Sixth and Seventh and between the Seventh and Eighth Revisions of the International Classification of Diseases.

[2]The reversal in the long upward trend in mortality from Arteriosclerotic heart disease, including coronary disease (ICD No. 420), the most nearly comparable cause in the Sixth and Seventh Revisions to Ischemic heart disease (ICDA Nos. 410-413) in the Eighth Revision, occurred between 1963 and 1964.

[3]The reversal in the long upward trend in mortality from Cirrhosis of liver (ICDA No. 571) occurred in 1973.

[4]Percent change for four race-sex groups is for 1954-57. Death rates by age, race, and sex are not available for 1950-53. The large percentage increases between 1950 and 1957 are based on very low death rates for this cause.

Table D. Mortality sex ratios by race and mortality race ratios by sex for selected causes of death: United States, specified years during 1950-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA). The years 1958 and 1968 were the first years, respectively, in which the Seventh and Eighth Revisions were in use in the United States. For 1950 and 1957 the Sixth Revision was in use]

Cause of death and year	Mortality sex ratio by race		Mortality race ratio by sex	
	White[1]	All other[1]	Male[2]	Female[2]
Malignant neoplasm of trachea, bronchus, and lung (162)				
1977	3.60	4.54	1.25	0.99
1968	5.35	5.88	1.10	1.00
1967	5.71	6.33	1.09	0.99
1958	6.51	5.78	0.91	1.02
1957	6.60	6.02	0.91	1.00
1950	4.70	4.11	0.77	0.88
Peptic ulcer (531-533)				
1977	2.17	2.31	1.15	1.08
1968	2.80	2.95	1.16	1.10
1967	3.00	2.74	1.05	1.15
1958	3.70	2.55	0.87	1.26
1957	3.65	3.41	0.89	0.96
1950	4.82	3.64	0.98	1.29
Malignant neoplasm of esophagus (150)				
1977	3.40	3.87	3.53	3.10
1968	3.67	3.92	3.09	2.89
1967	4.13	4.22	2.94	2.88
1958	4.13	4.53	2.33	2.13
1957	3.44	5.13	2.48	1.67
1950	4.13	3.76	1.94	2.13
Malignant neoplasm of buccal cavity and pharynx, excluding lip (141-149)				
1977	2.93	3.85	1.75	1.33
1968	3.36	3.71	1.34	1.21
1967	3.38	3.50	1.43	1.38
1950	4.09	2.56	0.91	1.45

[1]The race-specific age-adjusted death rate for the specified year for the male population divided by the corresponding race-specific death rate for the female population.
[2]The sex-specific age-adjusted death rate for the specified year for the population of races other than white divided by the corresponding sex-specific rate for the white population.

Age, race, and sex.—No decline occurred in the risk of dying from Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) with advance in age. For white men within each cohort (a group of white men born during the same 5-year period), the death rate for this cause increased to the end of the lifespan (figure 1). Thus the death rate for the cohort of white men born during 1903-07 increased from 10.7 per 100,000 for 1947, when they were 40-44 years of age, to 436.3 per 100,000 for 1977, when they were 70-74 years of age (table E). Similarly, for each of the other 11 cohorts of white men born in the 5-year intervals between 1883-87 and 1938-42, mortality from this cause increased throughout that part of the lifespan lived by the cohort during 1947-77.

Two other important findings from an examination of mortality data for this cause by individual cohorts were (1) each cohort of white men born between 1883-87 and 1928-32 usually had higher age-specific death rates (5-year age groups) for that part of the lifespan lived by the cohort between 1947-77 than had its predecessors; and (2) each cohort of white men born after 1928-32 usually had lower age-specific death rates for this cause than had its predecessors. This decline in the death rate at younger ages for white men during recent years is also shown by the trends for age-specific rates for 10-year age groups.

The pattern of mortality from Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) for all other men was the same as that for white men for the following: (1) within each cohort the death rate for this cause increased unabated to the end of that part of the lifespan lived by the cohort during 1947-77; (2) each cohort born between 1883-87 and

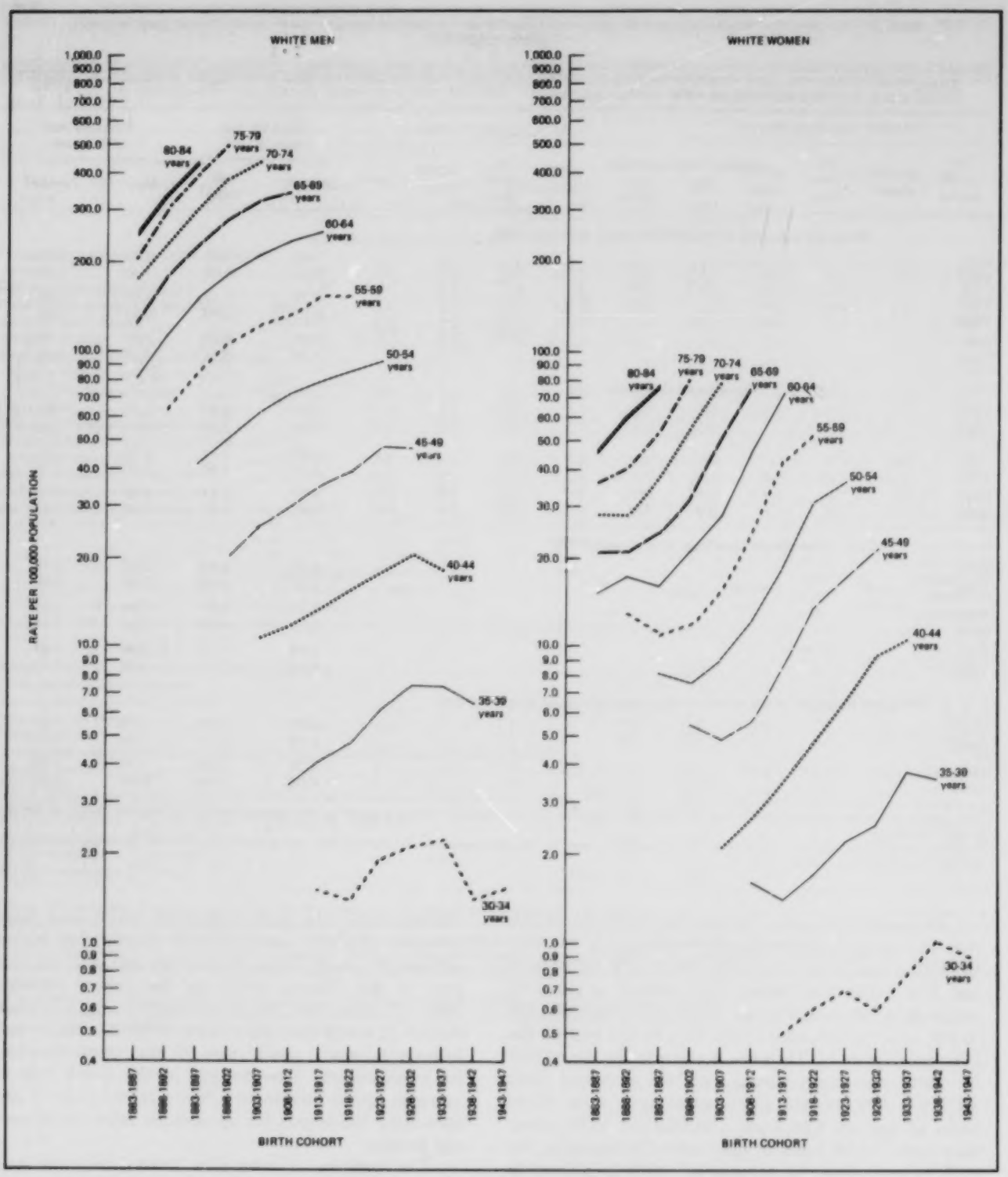


Figure 1. Death rates for Malignant neoplasm of trachea, bronchus, and lung, for white men and white women, by birth cohort and age at death: United States, 5-year intervals during 1947-77

Table E. Death rates for Malignant neoplasm of trachea, bronchus, and lung, by birth cohort, race, sex, and age at death: United States, 5-year intervals during 1947-77

[For 1972 and 1977 rates are based on deaths assigned to category number 162 of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA); for 1962 and 1967, on deaths assigned to category numbers 162 and 163 of the Seventh Revision, 1955; for 1952 and 1957, on deaths assigned to category number 162 of the Sixth Revision; and for 1947, on deaths assigned to category numbers 47b, c, and d of the Fifth Revision, 1938]

Race, sex, and age at death	Birth cohort												
	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887
White men	Rate per 100,000 population												
30-34 years	1.5	1.4	2.2	2.1	1.9	1.4	1.5						
35-39 years		6.4	7.3	7.4	6.1	4.7	4.1	3.4					
40-44 years			18.0	20.5	18.0	15.7	13.4	11.7	10.7				
45-49 years				47.1	47.8	39.2	35.4	29.7	25.3	20.0			
50-54 years					92.9	85.8	79.4	71.7	62.4	50.3	41.9		
55-59 years						152.3	153.7	131.8	120.8	107.1	85.1	63.6	
60-64 years							252.0	235.0	210.0	182.6	157.9	113.1	81.5
65-69 years								342.9	320.6	279.9	230.6	181.0	126.2
70-74 years									436.3	385.3	302.0	227.7	172.7
75-79 years										500.1	404.7	304.4	207.0
80-84 years											435.1	338.7	245.5
All other men													
30-34 years	3.1	3.9	4.0	4.5	1.4	2.6	2.6						
35-39 years		10.1	12.4	13.3	9.8	5.0	6.2	5.0					
40-44 years			37.1	38.5	37.8	27.4	16.7	17.2	11.7				
45-49 years				85.1	85.0	69.5	51.4	43.7	32.6	21.3			
50-54 years					162.0	131.5	119.3	83.7	72.1	47.9	33.4		
55-59 years						248.2	226.7	160.9	116.5	102.5	81.0	42.3	
60-64 years							334.7	270.8	224.4	173.0	147.3	80.6	47.3
65-69 years								352.5	309.9	226.3	184.5	125.2	74.7
70-74 years									453.4	349.3	251.8	180.1	128.9
75-79 years										450.4	316.7	234.8	147.2
80-84 years											302.2	264.5	160.6
White women													
30-34 years	0.9	1.0	0.8	0.6	0.7	0.6	0.5						
35-39 years		3.6	3.8	2.5	2.2	1.7	1.4	1.6					
40-44 years			10.6	9.3	6.6	4.7	3.5	2.6	2.1				
45-49 years				21.9	17.4	13.7	8.6	5.6	4.9	5.5			
50-54 years					37.0	31.3	18.9	12.2	9.0	7.6	8.1		
55-59 years						53.3	42.7	24.4	15.4	11.9	11.0	13.0	
60-64 years							73.6	46.1	27.9	21.2	16.1	17.4	15.2
65-69 years								77.1	51.9	31.8	24.6	21.3	21.0
70-74 years									78.9	55.9	37.4	28.2	28.2
75-79 years										82.5	54.4	40.3	36.3
80-84 years											76.2	60.2	45.9
All other women													
30-34 years	1.2	0.9	1.1	0.9	1.9	0.8	0.7						
35-39 years		5.0	2.9	4.5	3.2	1.4	2.4	1.7					
40-44 years			15.0	14.2	7.8	6.4	4.7	2.8	3.9				
45-49 years				24.8	17.9	13.5	9.8	5.9	5.8	6.4			
50-54 years					44.0	33.8	18.8	14.2	12.6	9.7	9.4		
55-59 years						56.3	31.2	23.3	18.1	11.3	15.8	7.9	
60-64 years							66.5	42.3	27.8	27.4	19.2	10.5	13.0
65-69 years								60.2	41.0	35.1	23.5	21.8	19.8
70-74 years									76.5	54.8	28.3	12.5	24.5
75-79 years										78.1	57.3	27.9	21.7
80-84 years											43.6	45.0	47.6

NOTE: The first figure in each row moving from right to left is the death rate for 1947; the second figure, for 1952; the third figure, for 1957; the fourth figure, for 1962; the fifth figure, for 1967; the sixth figure, for 1972; and the seventh figure, for 1977.

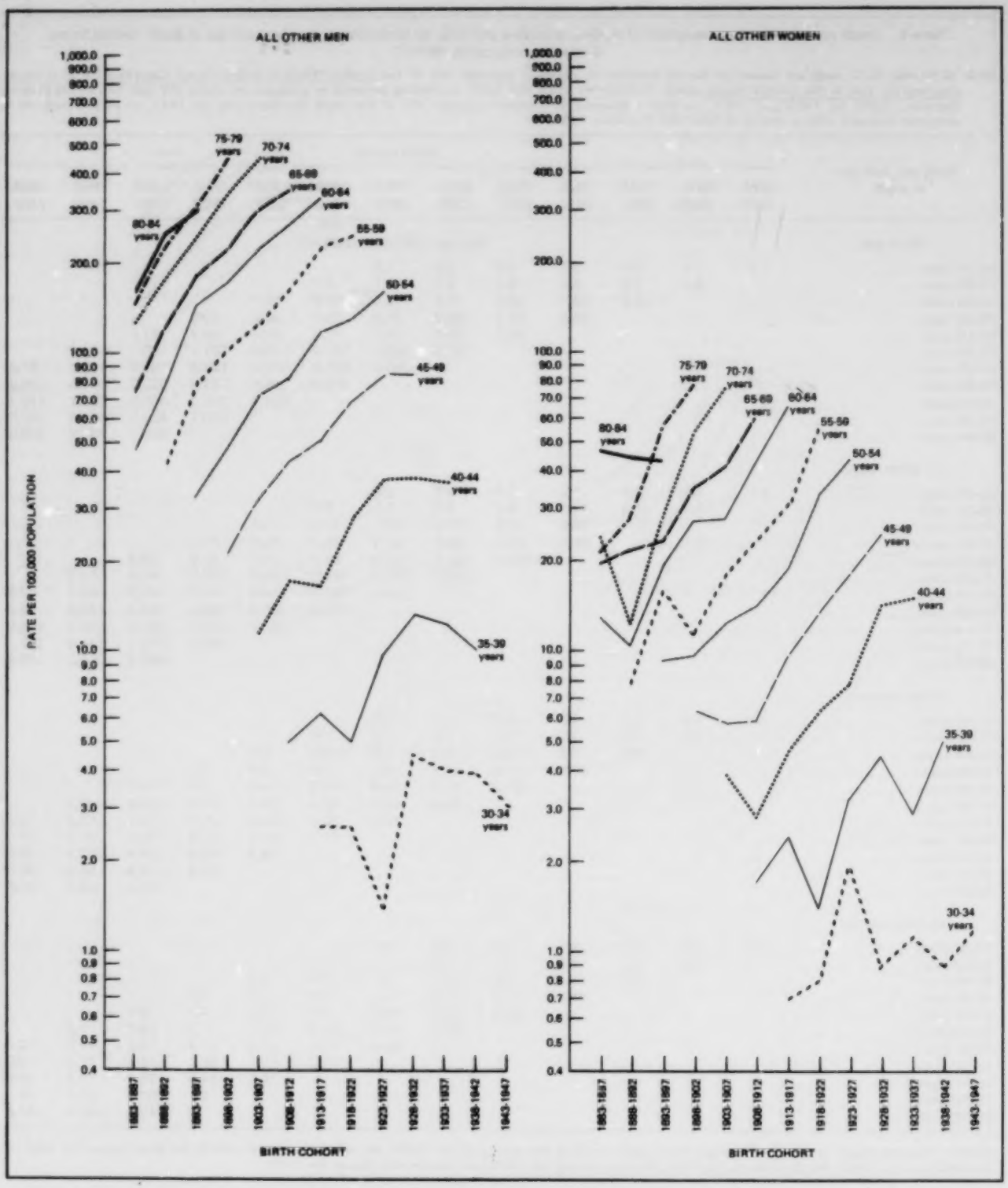


Figure 2. Death rates for Malignant neoplasm of trachea, bronchus, and lung, for all other men and all other women, by birth cohort and age at death: United States, 5-year intervals during 1947-77

1928-32 generally had higher age-specific death rates than had its predecessors; and (3) each cohort born after 1928-32 usually had lower age-specific death rates for this cause than had its predecessors.

The level of mortality from this cause for all other men, however, was generally higher than the level for white men (figures 1 and 2). More specifically, the age-specific death rates for cohorts of all other men who were born after 1898-1902 were, with few exceptions, substantially higher than the corresponding age-specific rates for this cause for white men.

Increasingly higher age-specific rates for all other men are also shown for 10-year age groups. For example, for men at ages 45-54 years, the mortality race ratio[d] for this cause increased from 0.97 to 1.27 between 1950 and 1957, from 1.25 to 1.59 between 1958 and 1967, and from 1.67 to 1.74 between 1968 and 1977.

The mortality experience of the 12 individual cohorts of white women who were born at 5-year intervals between 1883-87 and 1938-42 showed, as did the experience for white and all other men, that the death rate for Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) increased with advance in age to the end of the lifespan lived by the cohorts during 1947-77.

On the other hand, cohorts of white women born between 1928-32 and 1938-42, contrary to the pattern for white men, generally continued to have higher age-specific death rates for this cause than had their predecessors. For example, for white women the death rate for the age group 40-44 years increased from 2.1 per 100,000 for 1947, to 6.6 for 1967, to 9.3 for 1972, and to 10.6 for 1977; whereas for white men the death rate for this age group increased from 10.7 per 100,000 for 1947 to 18.0 for 1967, to 20.5 for 1972, and then dropped to 18.0 per 100,000 for 1977.

This continued increase in mortality from this cause for white women during recent years is also shown in trends for age-specific rates for 10-year age groups. Their death rate at ages 35-44 years, for example, increased between 1970 and 1977 from 5.8 to 6.9 per 100,000; whereas for white men at these ages the death rate decreased during these years from 14.7 to 11.9 per 100,000.

The levels of age-specific death rates are still much lower for white women than for white men, but as a result of larger increases in the death rate for women than for men, these gaps are narrowing. For example, for the white population at ages 35-44 years, the mortality sex ratio[e] for this cause decreased from 3.74 to 3.56 between 1950 and 1957, from 3.21 to 2.80 between 1958 and 1967, and from 2.51 to 1.72 between 1968 and 1977.

Cohort analysis for all other women showed a pattern similar to that for white women as follows: (1) within each cohort the death rate for this cause increased to the end of that part of the lifespan lived by the cohort during 1947-77; and (2) cohorts of all other women born after 1923-27, contrary to the pattern for all other men, generally continued to have higher age-specific death rates for this cause than had their predecessors.

This continued increase in mortality from this cause for all other women is also shown in trends for age-specific rates for 10-year age groups. Between 1950 and 1967 all other women in the age groups 55-64, 65-74, 75-84, and 85 years and over had larger increases in the death rate for this cause than had white women at these ages; whereas between 1968 and 1977 white women at these ages had larger increases than had all other women. Conversely between 1950 and 1967 white women in the younger age groups 25-34 and 45-54 years had larger increases in this rate than had all other women; and between 1968 and 1977, all other women at these ages had larger increases than had white women. For the remaining age group 35-44 years, the increase in the rate for all other women was larger than that for white women between both 1950 and 1967 and 1968 and 1977.

Malignant neoplasm of larynx

Total mortality.—No appreciable breaks occurred in the continuity of mortality statistics for Malignant neoplasm of larynx (ICDA No. 161) resulting from the introduction of new revisions of the International Classification of Diseases between 1950 and 1977 (table F).

Malignant neoplasm of larynx (ICDA No. 161) as a cause of death had a much lower frequency than Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162). The rise in the number of deaths from this cause (from 1,852 for 1950 to 3,390 for 1977) corresponded to an increase in the unadjusted death rate from 1.2 to 1.6 per 100,000; and in the age-adjusted death rate, from 1.1 to 1.2 per 100,000 (p. 7[2] and tables F and 3).

Race and sex.—For the white male group the unadjusted death rate for Malignant neoplasm of larynx (ICDA No. 161) increased from 2.3 per 100,000 for 1950 to 2.7 for 1977; and the age-adjusted death rate, from 2.0 to 2.1 per 100,000. For the all other male group much larger increases occurred between 1950 and 1977 than for the white male group for both the unadjusted death rate (from 1.4 to 3.0 per 100,000) and the age-adjusted death rate (from 1.6 to 3.5 per 100,000). Between 1950

[d]The age-specific death rate for the specified year for all other men divided by the corresponding age-specific death rate for white men.

[e]The age-specific death rate for the specified year for white men divided by the corresponding age-specific death rate for white women.

Table F. Age-adjusted death rates for selected causes of death, by race and sex: United States, specified years during 1950-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA). The years 1958 and 1968 were the first years, respectively, in which the Seventh and Eighth Revisions were in use in the United States. For 1950 and 1957 the Sixth Revision was in use]

Cause of death and year	Total	White		All other	
		Male	Female	Male	Female
	Rate per 100,000 population				
Malignant neoplasm of larynx (161)					
1977	1.2	2.1	0.3	3.5	0.6
1968	1.2	2.2	0.2	3.1	0.4
1967	1.2	2.2	0.2	2.9	0.4
1958	1.1	2.3	0.2	2.4	0.3
1957	1.1	2.0	0.2	2.1	0.3
1950	1.1	2.0	0.2	1.6	0.3
Chronic and unqualified bronchitis (490, 491)					
1977	1.4	2.1	0.9	1.3	0.5
1968	2.3	4.0	1.1	3.1	1.0
1967	2.1	3.6	0.9	2.6	0.8
1958	1.2	1.8	0.6	1.6	0.9
1957	1.1	1.6	0.6	1.6	0.7
1950	1.1	1.4	0.8	1.4	1.1
Malignant neoplasm of esophagus (150)					
1977	2.6	3.4	1.0	12.0	3.1
1968	2.4	3.3	0.9	10.2	2.6
1967	2.3	3.3	0.8	9.7	2.3
1958	2.2	3.3	0.6	7.7	1.7
1957	2.2	3.1	0.9	7.7	1.5
1950	2.3	3.3	0.8	6.4	1.7
Malignant neoplasm of bladder (188)					
1977	2.9	5.0	1.4	3.8	2.0
1968	3.1	5.1	1.5	4.0	2.2
1967	3.2	5.2	1.6	4.4	2.8
1958	3.4	5.1	1.8	4.0	2.6
1957	3.5	5.2	2.0	4.2	2.8
1950	3.7	5.3	2.2	3.9	2.7

and 1977 the unadjusted and age-adjusted rates for the white female group increased, respectively, from 0.2 to 0.5 per 100,000, and from 0.2 to 0.3 per 100,000. These two rates remained much lower between 1950 and 1977 than the corresponding rates for the white male group. The age-adjusted death rate for the all other female group increased from 0.3 to 0.6 per 100,000 between 1950 and 1977.

Age, race, and sex.—For white men the death rate for Malignant neoplasm of larynx (ICDA No. 161) was higher for 1977 than for 1950 for every 10-year age group in the span 55-64 through 75-84 years and for the age group 85 years and over. For all other men the death rate for this cause was higher for 1977 than for 1950 for every 10-year age group in the span 35-44 through 75-84 years and for the age group 85 years and over.

Although their rates were much lower than those for all other men, both white women and all other women also had higher rates in 1977 than in 1950 for the age groups 45-54, 55-64, and 65-74 years. In addition all other women had somewhat higher rates for 1977 for the age group 35-44 years.

Malignant neoplasm of lip

Total mortality.—No appreciable breaks were found in comparability of mortality statistics for Malignant neoplasm of lip (ICDA No. 140) as a result of the introduction of the Seventh or Eighth Revisions of the ICD. The death rate for this cause decreased between 1950 and 1958 (from 0.3 to 0.1 per 100,000); but between 1958 and 1977 the rate remained at the 1958 level (p. 8[2]). The age-adjusted death rate declined from 0.2 for 1950 to 0.1 for 1958 and to 0.0 for 1977 (table 4). The total number of deaths declined from 463 for 1950 to 227 for 1958 to 184 for 1968, and to 163 for 1977.

Race and sex.—Between 1950 and 1977 the unadjusted and age-adjusted death rates for this cause for the white male group dropped, respectively, from 0.7 to 0.1 and from 0.5 to 0.1 per 100,000

population. For the other three race-sex groups the death rate for this cause appears to be approaching zero. For 1977 while white men had 137 deaths from this cause, white women had only 20 deaths. For the all other population, the number of deaths for men was only 5, and that for women only 1.

Age, race, and sex.—For white men the death rate for Malignant neoplasm of lip (ICDA No. 140) was higher for each succeeding age group during 1950-77. For 1977 their rate rose from 0.1 per 100,000 at ages 45-54 years to 3.9 at ages 85 years and over.

Because of the low frequencies of this cause of death the trend by age is not so clear for the other three race-sex groups as it is for white men; but generally the rates for these three race-sex groups were higher for each succeeding age group for each year of 1950-77.

Chronic and unqualified bronchitis

As was cautioned in the earlier report on mortality from diseases associated with smoking, mortality figures should not be used to estimate the incidence of bronchitis in either the deceased or the general population. On the death certificate the certifying physician often reports this cause in Part II of the medical certification under "Other significant conditions contributing to death but not related to the terminal disease condition given in Part Ia."

Disruptions were found in comparability of mortality statistics for Chronic and unqualified bronchitis (ICDA Nos. 490, 491) as a result of the revisions of the International Classification of Diseases. The comparability ratio between the Sixth and Seventh Revisions was 1.07; and that between the Seventh and Eighth Revisions, 1.06 (pp. 45-48[7]). The number of deaths attributed to this cause increased from 1,953 to 2,379 between 1950 and 1957; increased from 2,621 to 5,306 between 1958 and 1967; and decreased from 6,205 to 4,313 between 1968 and 1977.

Total mortality.—The unadjusted death rate for Chronic and unqualified bronchitis (ICDA Nos. 490, 491) increased from 1.3 to 1.4 per 100,000 between 1950 and 1957, increased from 1.5 to 2.7 per 100,000 between 1958 and 1967, and then decreased from 3.1 to 2.0 per 100,000 between 1968 and 1977 (p. 36[2] and table 5). The age-adjusted death rate was 1.1 per 100,000 for both 1950 and 1957, then increased from 1.2 to 2.1 between 1958 and 1967, and decreased from 2.3 to 1.4 between 1968 and 1977.

Race and sex.—Death rates for Chronic and unqualified bronchitis (ICDA Nos. 490, 491) for the white male group were higher throughout 1950-77 than the rates for the other three race-sex groups. The 1977 age-adjusted death rate for the white male group (2.1 per 100,000) was 2.3 times the corresponding rate for the white female group (0.9 per 100,000), 1.6 times the corresponding rate for the all other male group (1.3 per 100,000), and 4.2 times the corresponding rate for the all other female group (0.5 per 100,000).

For the male groups of both the white and the all other populations the age-adjusted death rate for this cause increased between 1950 and 1957 and 1958 and 1967, and decreased between 1968 and 1977. The patterns for the female groups of both the white and the all other populations were less regular than those for their male counterparts. For these two groups also, however, the age-adjusted death rates clearly decreased between 1968 and 1977.

Age, race, and sex.—The decline in the unadjusted and age-adjusted death rates for Chronic and unqualified bronchitis (ICDA Nos. 490, 491) for the total population between 1968 and 1977 reflected decreases in the age-specific rates for every 10-year age group from 35-44 to 75-84 years and for the age group 85 years and over (table 5). Similarly the decline for each of the four race-sex groups generally reflected decreases in the age-specific rate for the 10-year age groups from 35-44 through 75-84 years and for the age group 85 years and over. For each year of 1950-77 (with few exceptions) the death rate for this cause was higher for each successive age group. This increase for successive age groups of the total population generally reflected increases for successive age groups of each of the four race-sex groups.

Ischemic heart disease

Total mortality.—A significant phenomenon in the history of public health of the United States in recent decades was the reversal in 1963-64 of the long-term upward trend in mortality from Ischemic heart disease (ICDA Nos. 410-413) (pp. 7-10[8]). Obscuring the trend for this cause was the break in continuity of mortality statistics resulting from the introduction of the Eighth Revision. About 15 percent more deaths were assigned to Ischemic heart disease (ICDA Nos. 410-413) by this revision than had been assigned to the most nearly comparable title in the Seventh Revision—Arteriosclerotic heart disease, including coronary disease (ICDA No. 420). The comparability ratio between these two titles was 1.1457 (pp. 11-14[7]). The reversal was also obscured by the marked fluctuations in the rate with the presence or absence of influenza outbreaks and their degree of severity. During 1950-67 the age-adjusted death rate for Arteriosclerotic heart disease, including coronary disease (ICDA No. 420) rose from 185.2 per 100,000 for 1950 to 220.3 per 100,000 for 1963—a year with a severe epidemic of influenza (pp. 36-39[2] and table 6). The death rate then decreased to 215.4 per 100,000 for 1964—a year relatively free from influenza. Thereafter the rate, after fluctuating some-

what with the limited outbreaks of influenza during 1965-66, decreased to 211.8 per 100,000 for 1967. Between 1968 and 1977, when, as mentioned above, about 15 percent more deaths were assigned to Ischemic heart disease (ICDA Nos. 410-413) than had been assigned to the most nearly comparable cause according to the Seventh Revision, the age-adjusted death rate fell 23.4 percent—from 241.6 to 185.0 per 100,000.

Between 1968 and 1977, the number of deaths from Ischemic heart disease (ICDA Nos. 410-413), hereinafter denoted by IHD, decreased from 674,747 to 642,270. The unadjusted death rate decreased 12.8 percent (from 338.4 to 295.1 per 100,000); and the age-adjusted death rate, 23.4 percent (from 241.6 to 185.0 per 100,000) (table 6). The average annual percent decrease in the age-adjusted death rate between 1973 and 1977 (4.1 percent) was more than twice that between 1968 and 1972 (1.9 percent).

As the studies presented in the *Proceedings of the Conference on the Decline in Coronary Heart Disease Mortality* made clear, the reason (or reasons) for the decline in IHD has not yet been established (pp. 381-399[9]). The findings of Kleinman, Feldman, and Monk indicate that the changes in smoking behavior in the population aged 35-64 years (as reported in the National Health Interview Survey) do not consistently account for the decline in IHD (pp. 195-211[9]).

Race and sex.—The ranking of the four race-sex groups by the magnitude of their age-adjusted death rates for IHD in 1977 and the percent decreases in their rates between 1968 and 1977 are shown below.

	Rank in 1977	Age-adjusted rate	Percent decrease
White, male	1	264.7	21.4
All other, male	2	245.3	22.5
All other, female	3	152.3	28.5
White, female	4	119.0	24.5

For each of the four race-sex groups, the average annual percent decrease in the age-adjusted death rate for IHD, as shown below, was greater for 1973-77 than for 1968-72.

	1968-72	1973-77
White, male	1.6	3.9
White, female	1.9	4.3
All other, male	2.0	3.9
All other, female	3.1	5.0

Age, race, and sex.—All 10-year age groups in the span 35-44 to 75-84 years experienced decreases in the death rate for IHD between 1968 and 1977. This decrease was true for each of the four race-sex groups (figures 3 and 4).

Cirrhosis of liver

Total mortality.—No serious breaks were found in comparability of mortality statistics for Cirrhosis of liver (ICDA No. 571) during 1950-77. The comparability ratio is 0.99 between the Sixth and Seventh Revisions and 1.0055 between the Seventh and Eighth Revisions. For this reason the following analysis is for the ascending and descending periods (1950-73 and 1973-77) of mortality from this cause.

For 1977, 30,848 deaths were attributed to Cirrhosis of liver (ICDA No. 571), which ranks as the seventh leading cause of death. The long upward trend in the unadjusted death rate for this disease reached a record high of 15.9 deaths per 100,000 in 1973 (p. 40[2] and table 7). Since then this rate has been declining, dropping to 14.3 per 100,000 for 1977

The age-adjusted death rate also peaked for 1973 (15.0 per 100,000), and decreased for each succeeding year, to 13.1 per 100,000 for 1977.

Race and sex.—Unadjusted death rates for Cirrhosis of liver (ICDA No. 571) dropped between 1973 and 1977 for each of the four race-sex groups, but the rank order of this cause among other causes remained the same for 1973 and 1977 (table G). The rise in mortality between 1950 and 1973 from this cause for the four race-sex groups is not attributable to changes in their age composition. The trends in their age-adjusted death rates over this period were also upward: 66.4 percent for the white male group (from 11.6 to 19.3 per 100,000); 50.0 percent for the white female group (from 5.8 to 8.7 per 100,000); 276.7 percent for the all other male group (from 9.0 to 33.9 per 100,000); and 205.1 percent for the all other female group (from 5.9 to 18.0 deaths per 100,000).

By race and sex the smallest percent decrease (7.4) between 1973 and 1977 in the age-adjusted death rate for this cause was for the all other male group (table 7). Their very high death rate of 33.9 per 100,000 for 1973 decreased only to 31.4 per 100,000 for 1977. The corresponding decline in the rate for their female counterparts amounted to 16.7 percent—from 18.0 to 15.0 per 100,000. For the white male group the death rate fell 13.5 percent—from 19.3 to 16.7 per 100,000; and for the white female group, 13.8 percent—from 8.7 to 7.5 per 100,000.

During 1968-77 (when deaths were classified by the Eighth Revision), 121,256 deaths were attributed to Cirrhosis of liver with mention of alcoholism (ICDA No. 571.0). These deaths accounted for 38.4 percent of all deaths from Cirrhosis of liver (ICDA No. 571) for this 10-year period. For the total population this percent with mention of alcoholism rose from 34.4 for 1968 to 42.2 for 1977 (table H). This

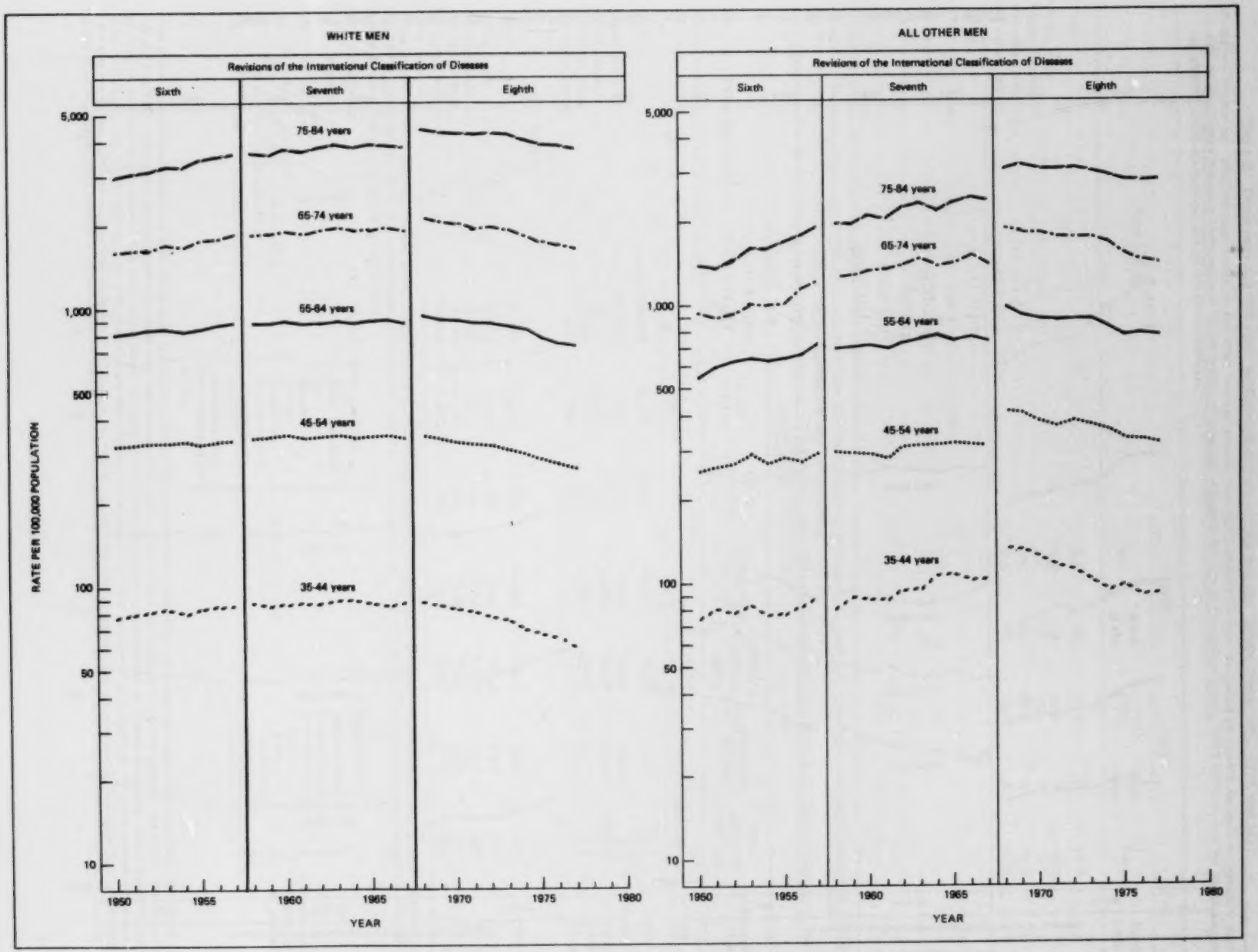


Figure 3. Death rates for ischemic heart disease for white men and all other men, by age: United States, 1950-77

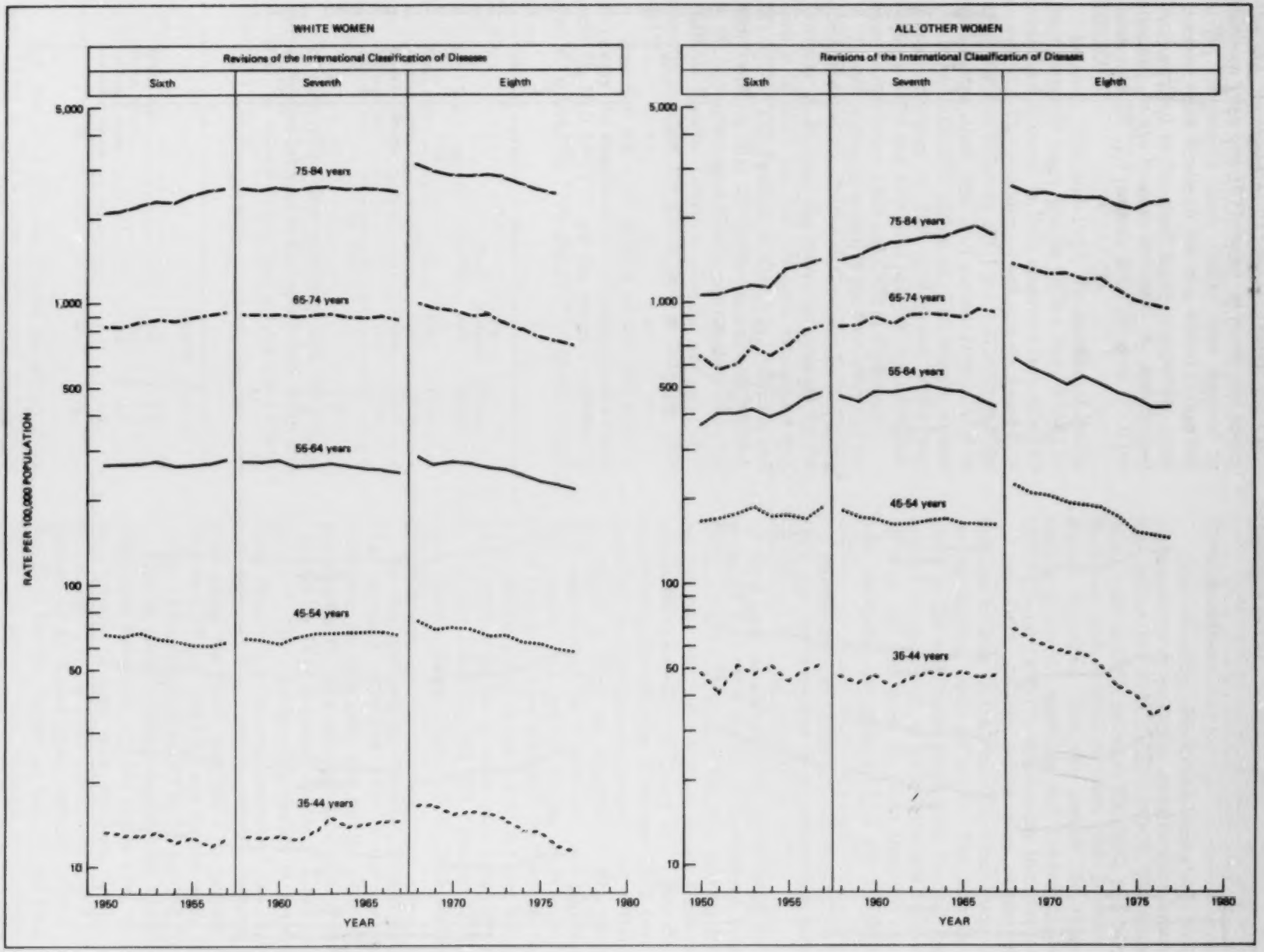


Figure 4. Death rates for ischemic heart disease for white women and all other women, by age: United States, 1950-77

Table G. Death rates and rank order for Cirrhosis of liver, by race and sex: United States, 1950, 1973, and 1977

[Rates are deaths per 100,000 population in specified race-sex groups. For 1973 and 1977 rates are based on deaths assigned to category number 571 of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA); and for 1950, on deaths assigned to category number 581 of the Sixth Revision]

Race and sex	1950		1973		1977	
	Rate	Rank order	Rate	Rank order	Rate	Rank order
Total	9.2	13	15.9	7	14.3	7
White, male	12.6	13	20.5	7	18.3	7
White, female	6.5	13	10.1	8	9.1	8
All other, male	7.8	18	26.6	8	24.9	8
All other, female	5.2	19	15.2	8	12.9	8

Table H. Number and percent distribution of deaths from Cirrhosis of liver by subcategories Alcoholic, Other specified, and Unspecified, according to race and sex: United States, 1968 and 1977

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA)]

Year, race, and sex	Cirrhosis of liver (571)	Alcoholic (571.0)	Other specified (*571.8)[1]	Unspecified (*571.9)[1]	Cirrhosis of liver (571)	Alcoholic (571.0)	Other specified (*571.8)[1]	Unspecified (*571.9)[1]
	Number of deaths				Percent distribution			
1977								
Total	30,848	13,029	3,908	13,911	100.0	42.2	12.7	45.1
White, male	16,727	7,241	1,658	7,828	100.0	43.3	9.9	46.8
White, female	8,721	3,102	1,343	4,276	100.0	35.6	15.4	49.0
All other, male	3,440	1,791	554	1,095	100.0	52.1	16.1	31.8
All other, female	1,960	895	353	712	100.0	45.7	18.0	36.3
1968								
Total	29,183	10,036	5,694	13,453	100.0	34.4	19.5	46.1
White, male	16,142	5,738	2,739	7,665	100.0	35.5	17.0	47.5
White, female	8,607	2,511	1,918	4,178	100.0	29.2	22.3	48.5
All other, male	2,679	1,135	591	953	100.0	42.4	22.1	35.6
All other, female	1,755	652	446	657	100.0	37.2	25.4	37.4

[1]The Eighth Revision adapted for use in the United States has the three subcategories shown in the report, whereas the Revision adopted by the World Health Organization has only two subcategories: Alcoholic (ICD No. 571.0) and Other (ICD No. 571.9). The inclusion terms under the three subcategories in use in the United States are as follows:

571.0 Alcoholic

- Alcoholic:
  - cirrhosis
  - hepatitis
- Laennec's cirrhosis
- Any condition in 571.8 or 571.9 with mention of alcohol or alcoholism

*571.8 Other specified

Without mention or alcohol or alcoholism:

- Cirrhosis (hepatic) (liver):
  - biliary
  - cardiac
  - congenital
  - due to passive congestion
  - portal
  - postnecrotic
- Fatty degeneration of liver

*571.9 Unspecified

Without mention or alcohol or alcoholism:

- Banti's disease
- Chronic hepatitis
- Cirrhosis (hepatic) (liver):
  - NOS
  - hepatolienal
  - splenomegalic
- Hepatolienal fibrosis

The ICDA gives greater detail and specificity than is provided by the Eighth Revision of the ICD. Complete correspondence between these two classifications has been maintained at the three-digit level, but new fourth-digit subdivisions have been created in various parts of the ICDA. Where necessary, existing fourth-digit subdivisions have been renumbered to accommodate the additional subcategories in logical sequence. Those subdivisions of the ICDA which do not correspond exactly with the ICD are identified by an asterisk (*). This explains the asterisks in this table before 571.8 and 571.9. The asterisk is also used, as is described in tables B, A, B, C, K, L, and M, to identify titles that were introduced by the National Center for Health Statistics after the publication of ICDA.

rise for the total population reflects increases in this percent for each of the four race-sex groups, with the greatest increase for the all other male group—from 42.4 percent for 1968 to 52.1 percent for 1977.

Age, race, and sex.—For 1977 the death rate for Cirrhosis of liver (ICDA No. 571) for the total population increased for each succeeding age group through ages 55-64 years and then declined for the age groups in the remainder of the lifespan. A similar pattern was found for each of the four race-sex groups for each year from 1950 to 1977. Whether this death rate actually did peak before the end of the lifespan was determined by cohort analysis. An examination of the death rate for persons born 1903-07 shows that for two of the four race-sex groups (white men and all other men) the death rate for this cause peaked at ages 65-69 years (table J). For a third group (all other women) the rate peaked at an even younger age—60-64 years. For the fourth group (white women), however, the death rate continued to rise slightly through age group 70-74 years.

As may be seen in table 7 and figures 5 and 6, the unexplained reversal of the long upturn in Cirrhosis of liver (ICDA No. 571) that occurred in the early 1970's was experienced by almost every age group. A similar reversal occurred for each of the four race-sex groups.

Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema

Total mortality.—The death rate for the combined causes of Emphysema (ICDA No. 492) and Chronic obstructive lung disease without mention of asthma, bronchitis or emphysema (No. *519.3) reached an all-time high in the United States in 1977. (As noted earlier, the asterisk indicates that this title was not included in ICDA, but was introduced by NCHS.) The unadjusted death rate for this combination of causes was 18.7 per 100,000; and the age-adjusted death rate, 12.6 per 100,000. A total of 40,338 deaths from these two causes occurred in 1977.

In the earlier study on mortality from causes

Table J. Death rates for Cirrhosis of liver for cohort born 1903-07, by race, sex, and age at death: United States, 5-year intervals during 1952-77

[For 1972 and 1977 rates are based on deaths assigned to category number 571 of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA); for 1962 and 1967 and for 1952 and 1957, on deaths assigned to category number 581 of the Seventh and Sixth Revisions, adopted by the World Health Organization, respectively, in 1955 and 1948]

Race, sex, and year of death from Cirrhosis of liver	Age at death (in years) for cohort born 1903-07	Death rate per 100,000 population
White men		
1977	70-74	58.8
1972	65-69	74.0
1967	60-64	68.3
1962	55-59	51.2
1957	50-54	42.4
1952	45-49	27.0
All other men		
1977	70-74	45.7
1972	65-69	69.6
1967	60-64	58.9
1962	55-59	39.0
1957	50-54	30.5
1952	45-49	21.5
White women		
1977	70-74	27.2
1972	65-69	27.0
1967	60-64	26.6
1962	55-59	19.7
1957	50-54	17.3
1952	45-49	14.0
All other women		
1977	70-74	21.4
1972	65-69	19.2
1967	60-64	30.2
1962	55-59	22.2
1957	50-54	17.2
1952	45-49	13.4

Table K. Number of deaths from specified diseases of respiratory system, by race and sex: United States, 1968-77

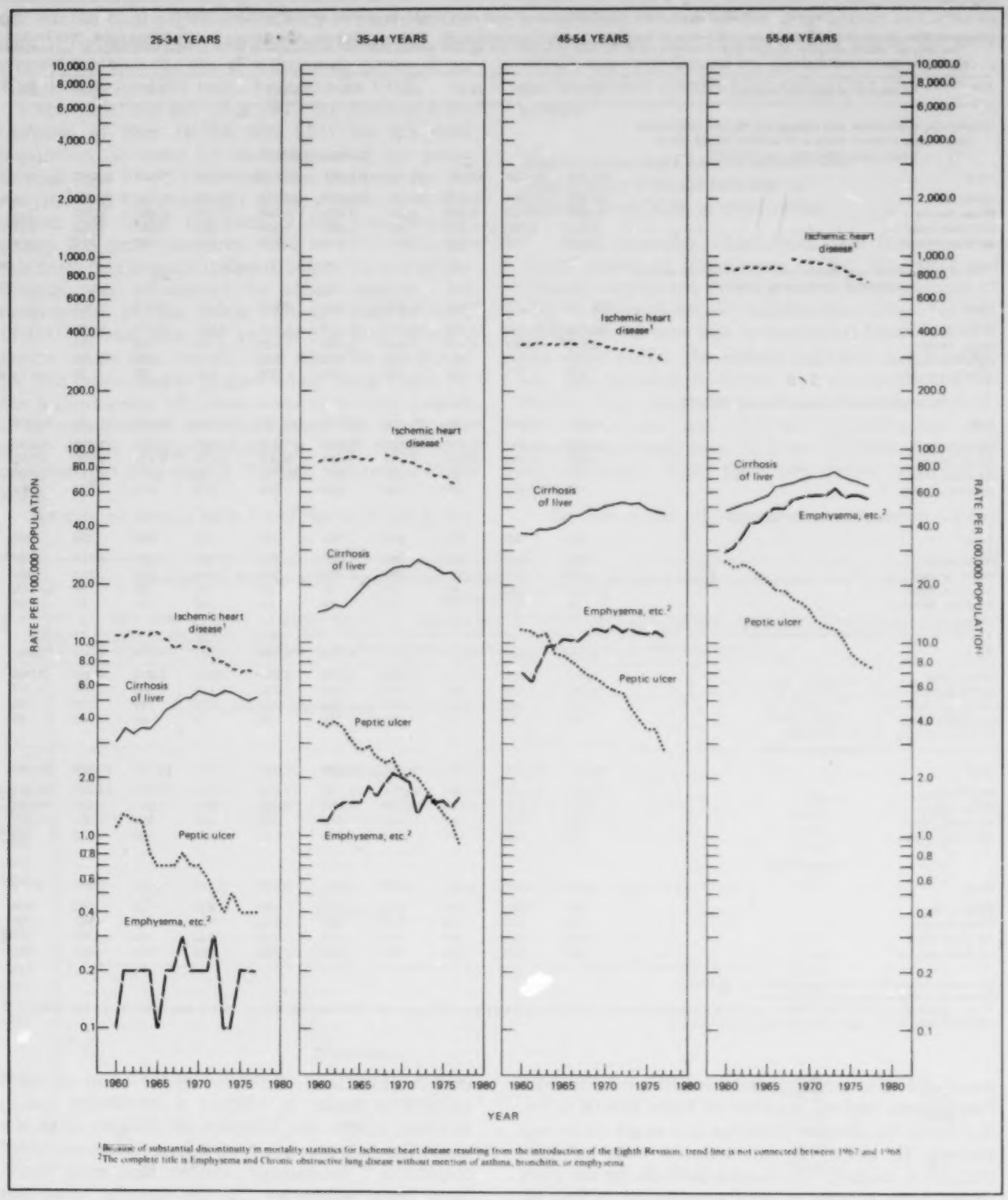
[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adopted for Use in the United States, 1965 (ICDA). The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics]

Cause of death, race, and sex	1977[1]	1976[1]	1975[1]	1974[1]	1973[1]	1972[1,2]	1971[1]	1970[1]	1969	1968
Bronchitis, emphysema, and asthma and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema (490-493 and *519.3)[3]						Number of deaths				
Total	46,325	45,882	43,061	41,179	41,042	38,978	36,805	35,333	33,848	---
White, male	31,802	31,861	30,374	29,281	29,542	28,172	26,695	25,921	25,096	---
White, female	11,575	11,122	9,986	9,320	8,833	8,156	7,398	6,886	6,343	---
All other, male	2,209	2,196	1,989	1,961	2,003	1,984	1,828	1,857	1,766	---
All other, female	739	713	712	617	664	666	684	669	643	---
Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema (*519.3)[3]										
Total	23,962	21,472	17,593	14,299	11,334	8,210	6,321	4,444	2,704	---
White, male	16,718	15,184	12,573	10,315	8,177	5,944	4,647	3,271	2,000	---
White, female	5,736	4,937	3,956	3,049	2,369	1,592	1,164	786	473	---
All other, male	1,186	1,079	838	757	628	566	405	330	192	---
All other, female	322	272	226	178	160	108	105	58	39	---
Bronchitis, emphysema, and asthma (490-493)										
Total	22,363	24,410	25,468	26,880	29,708	30,768	30,284	30,889	31,144	33,078
White, male	15,084	16,667	17,801	18,966	21,365	22,228	22,048	22,650	23,096	24,536
White, female	5,839	6,185	6,030	6,271	6,464	6,564	6,234	6,101	5,870	6,153
All other, male	1,023	1,117	1,151	1,204	1,375	1,418	1,423	1,527	1,574	1,726
All other, female	417	441	486	439	504	558	579	611	604	663
Bronchitis, unqualified (490)										
Total	704	744	696	680	788	778	710	832	790	843
White, male	268	319	326	301	326	352	309	365	361	359
White, female	358	340	292	281	333	294	294	318	311	342
All other, male	43	48	49	67	73	68	61	88	76	88
All other, female	35	37	29	31	36	64	46	61	51	54
Chronic bronchitis (491)										
Total	3,609	3,895	4,016	4,417	4,779	5,084	4,881	5,014	5,044	5,362
White, male	2,344	2,595	2,744	3,026	3,332	3,582	3,507	3,632	3,699	3,908
White, female	1,087	1,110	1,087	1,164	1,212	1,222	1,114	1,140	1,075	1,147
All other, male	130	152	141	167	180	212	188	197	214	239
All other, female	48	38	44	60	55	68	72	45	56	68
Emphysema (492)										
Total	16,376	17,796	18,795	19,907	22,249	22,580	22,539	22,721	22,939	24,185
White, male	11,911	13,128	14,092	15,011	17,100	17,528	17,553	17,919	18,243	19,361
White, female	3,646	3,808	3,775	3,979	4,089	3,982	3,858	3,640	3,522	3,568
All other, male	683	722	757	783	910	900	949	982	1,001	1,073
All other, female	136	138	171	134	170	170	179	180	173	183
Asthma (493)										
Total	1,674	1,976	1,961	1,876	1,912	2,326	2,154	2,322	2,362	2,688
White, male	561	625	639	628	607	766	679	734	793	908
White, female	748	927	876	847	850	1,066	968	1,003	962	1,096
All other, male	167	195	204	187	212	238	225	260	283	326
All other, female	198	228	242	214	243	256	282	325	324	358

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] The subcategory ICDA No. *519.3 was first introduced for data year 1969. Beginning with data year 1972 the subtitle for *519.3 was modified by the addition of "without mention of asthma, bronchitis, or emphysema."

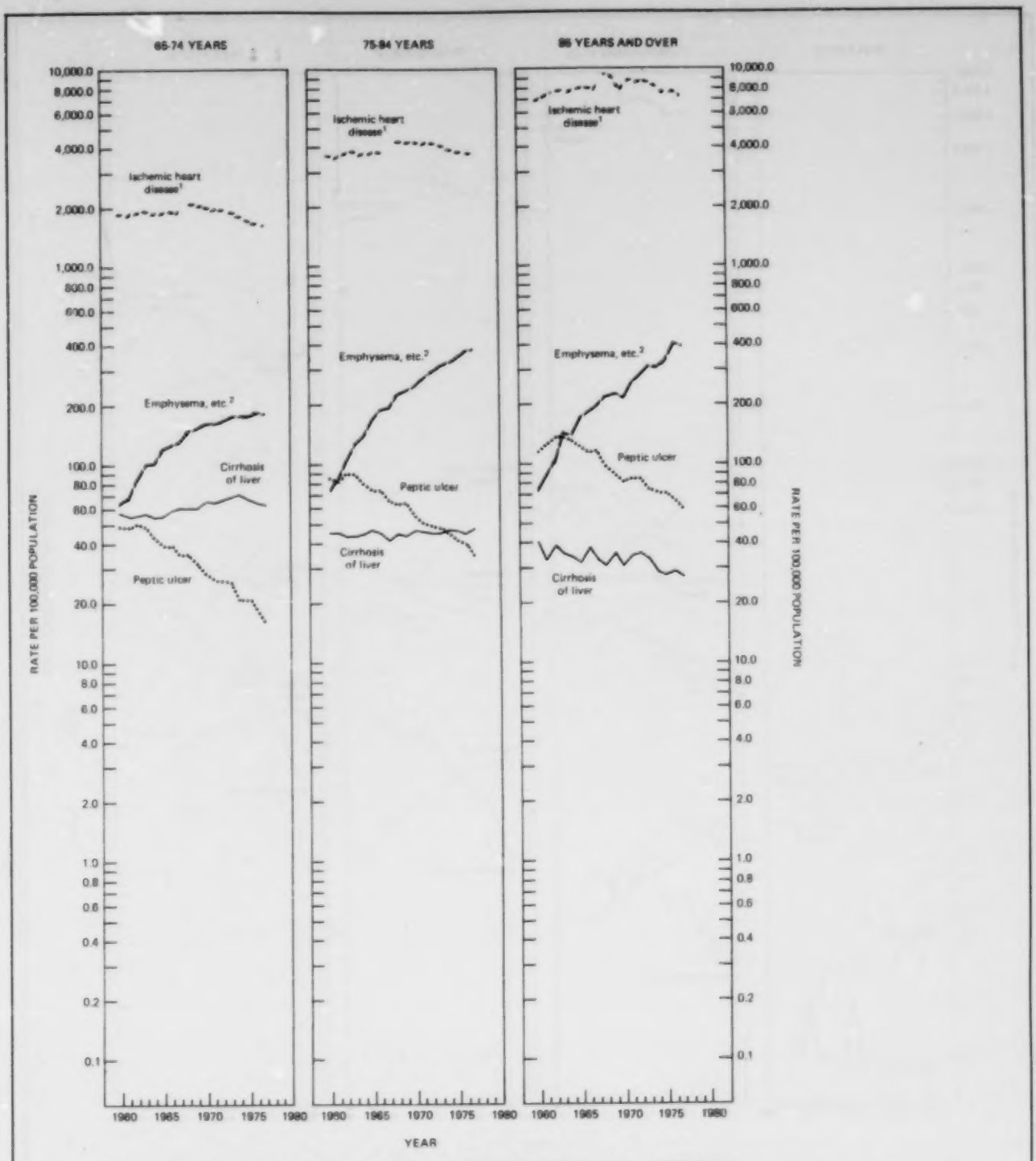
associated with smoking, the trend of mortality from Emphysema without mention of bronchitis (ICD No. 527.1) of the Seventh Revision as a single cause was studied. To lessen the discontinuity resulting from changes in medical certification patterns for the years 1969-77 the number of deaths attributed to Emphysema (ICDA No. 492) and to Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema (No. *519.3) have been combined (tables 8, K, and L, and figures 5, 6, and 7).

During the latter part of the 1960's an unusual shift in physicians' attribution of the cause on death certificates began to obscure a continuing rise in mortality from the complex of diseases often described as "chronic obstructive lung disease and allied conditions." Increasingly, deaths that once would have been attributed to the specific condition "emphysema," and to a lesser extent to "chronic bronchitis," were now designated by the general term "chronic obstructive lung disease," or by one of its synonyms or abbreviations. As a result, while the unadjusted death rate for Emphysema (ICDA No. 492)



[1] Because of substantial discontinuity in mortality statistics for Ischemic heart disease resulting from the introduction of the Eighth Revision, trend line is not connected between 1967 and 1968.
[2] The complete title is Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema.

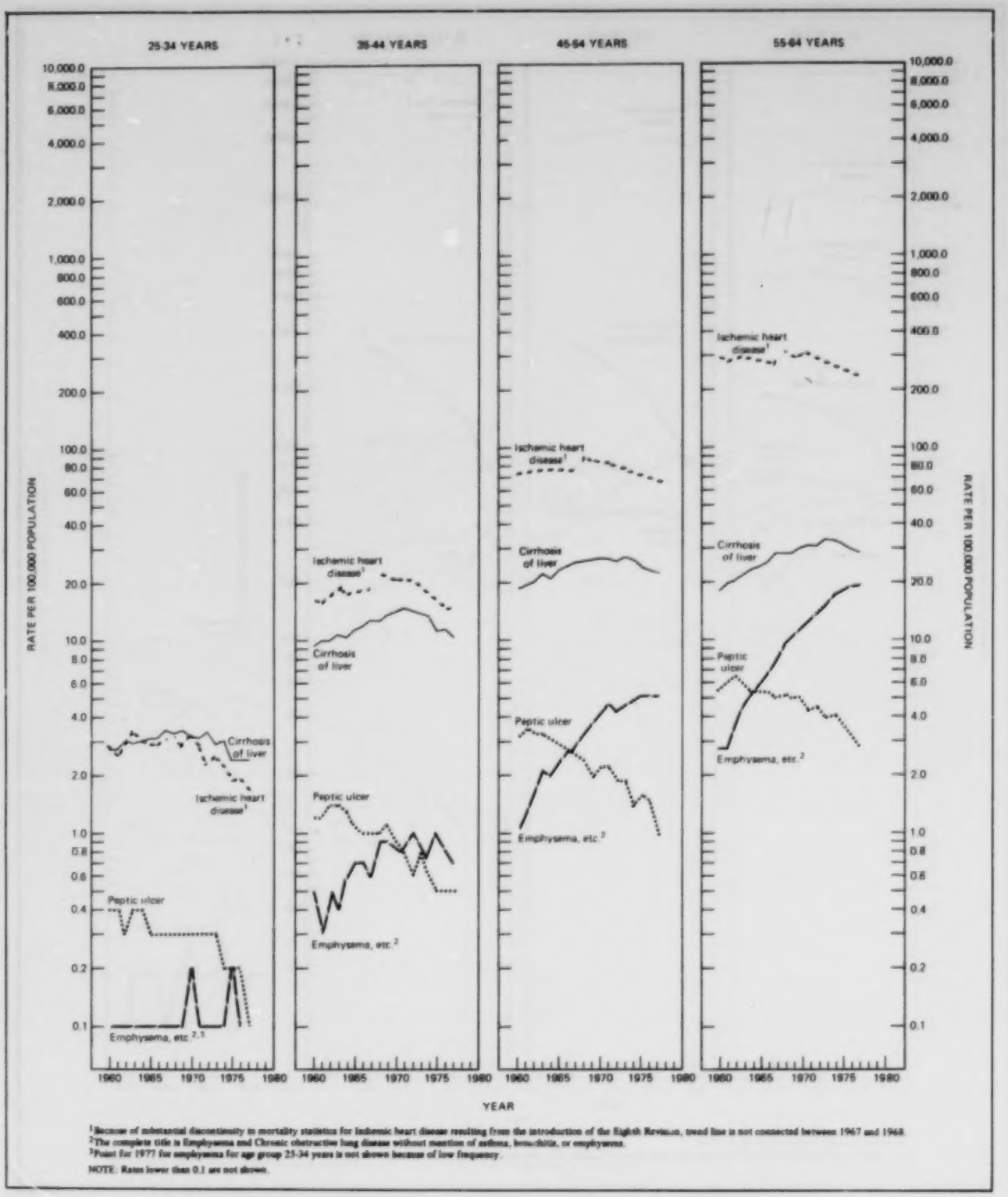
Figure 5. Death rates for men in specified age groups for 4 leading causes of death related to smoking: United States, 1960-77



[1] Because of substantial discontinuity in mortality statistics for ischemic heart disease resulting from the introduction of the Eighth Revision, trend line is not connected between 1967 and 1968.

[2] The complete title is Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema.

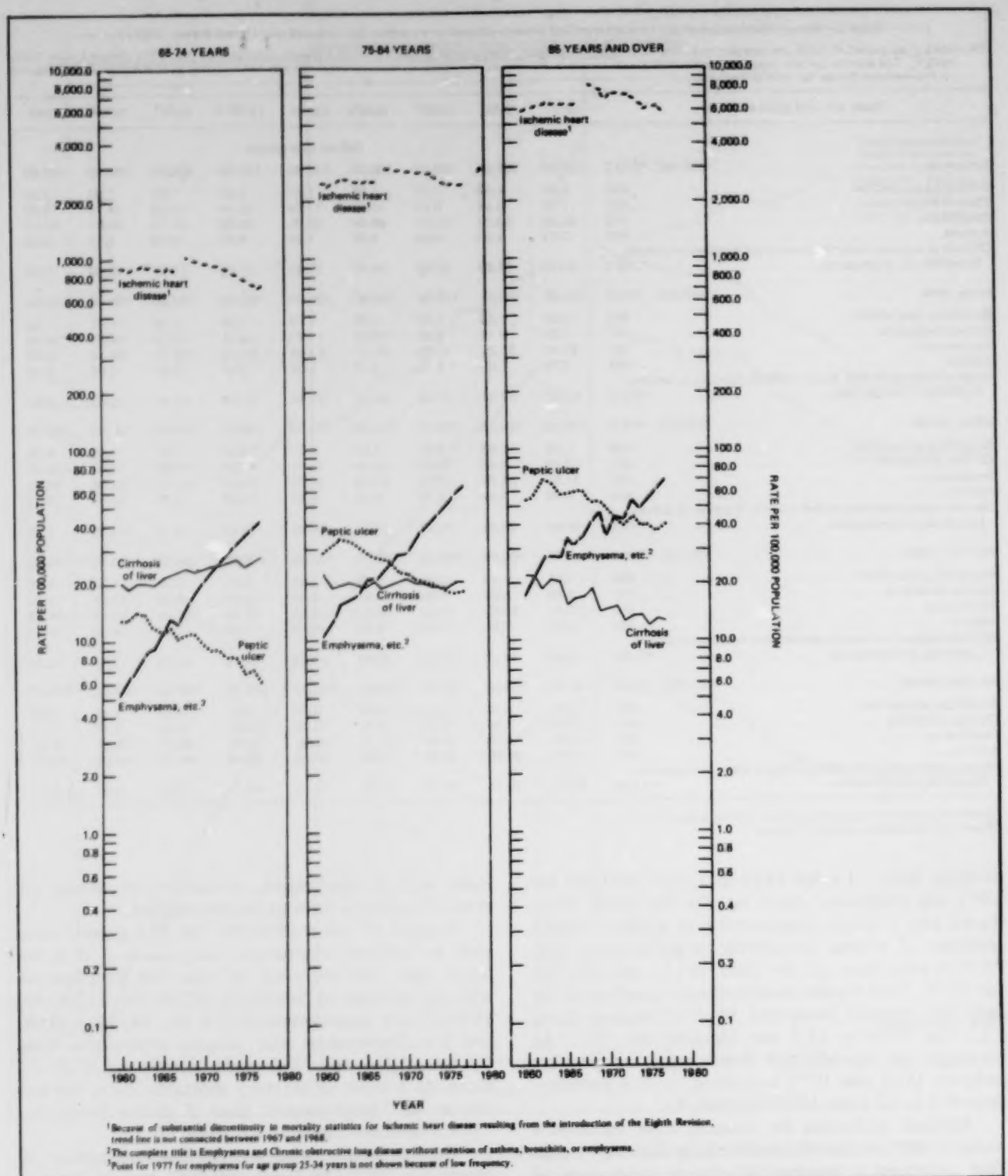
Figure 5. Death rates for men in specified age groups for 4 leading causes of death related to smoking: United States, 1960-77—Con.



[1] Because of substantial discontinuity in mortality statistics for ischemic heart disease resulting from the introduction of the Eighth Revision, trend line is not connected between 1967 and 1968.
[2] The complete title is Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema.
[3] Point for 1977 for emphysema for age group 25-34 years is not shown because of low frequency.

NOTE: Rates lower than 0.1 are not shown.

Figure 6. Death rates for women in specified age groups for 4 leading causes of death related to smoking: United States, 1960-77



[1]Because of substantial discontinuity in mortality statistics for ischemic heart disease resulting from the introduction of the Eighth Revision, trend line is not connected between 1967 and 1968.

[2]The complete title is Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema.

[3]Point for 1977 for emphysema for age group 25-34 years is not shown because of low frequency.

Figure 6. Death rates for women in specified age groups for 4 leading causes of death related to smoking: United States, 1960-77—Con.

Table L. Percent distribution of deaths from specified diseases of respiratory system, by race and sex: United States, 1969-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA). The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics]

Race, sex, and cause of death		1977[1]	1976[1]	1975[1]	1974[1]	1973[1]	1972[1,2]	1971[1]	1970[1]	1969
		Percent distribution								
Both sexes	490-493, *519.3	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bronchitis, unqualified	490	1.52	1.62	1.82	1.85	1.87	2.00	1.94	2.35	2.36
Chronic bronchitis	491	7.79	8.49	9.33	10.73	11.64	13.04	13.33	14.19	14.90
Emphysema	492	35.35	38.79	43.65	48.34	54.21	57.93	61.57	64.31	67.77
Asthma	493	3.61	4.30	4.55	4.56	4.66	5.97	5.88	6.57	6.98
Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema	*519.3	51.73	46.80	40.86	34.72	27.62	21.06	17.27	12.58	7.99
White, male	490-493, *519.3	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bronchitis, unqualified	490	0.84	1.00	1.07	1.03	1.10	1.25	1.16	1.41	1.44
Chronic bronchitis	491	7.37	8.15	9.03	10.33	11.28	12.71	13.14	14.01	14.74
Emphysema	492	37.46	41.22	46.39	51.27	57.88	62.22	65.75	69.13	72.69
Asthma	493	1.76	1.98	2.10	2.14	2.05	2.72	2.54	2.83	3.16
Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema	*519.3	52.57	47.67	41.39	35.23	27.68	21.10	17.41	12.62	7.97
White, female	490-493, *519.3	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bronchitis, unqualified	490	3.09	3.06	2.92	3.02	3.77	3.60	3.97	4.62	4.90
Chronic bronchitis	491	9.39	9.98	10.89	12.49	13.72	14.98	15.06	16.56	16.95
Emphysema	492	31.50	34.24	37.80	42.69	46.07	48.82	52.15	52.86	55.53
Asthma	493	6.46	8.33	8.77	9.09	9.62	13.07	13.08	14.57	15.17
Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema	*519.3	49.56	44.39	39.62	32.71	26.82	18.42	15.73	11.40	7.46
All other, male	490-493, *519.3	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bronchitis, unqualified	490	1.95	2.19	2.46	3.42	3.64	3.43	3.34	4.74	4.30
Chronic bronchitis	491	5.89	6.92	7.09	8.52	8.99	10.69	10.28	10.61	12.12
Emphysema	492	30.92	32.88	38.06	39.93	45.43	45.36	51.91	52.88	56.68
Asthma	493	7.56	8.88	10.26	9.54	10.58	12.00	12.31	14.00	16.02
Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema	*519.3	53.69	49.13	42.13	38.60	31.35	28.53	22.16	17.77	10.87
All other, female	490-493, *519.3	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bronchitis, unqualified	490	4.74	5.19	4.07	5.02	5.42	9.61	6.73	9.12	7.93
Chronic bronchitis	491	6.50	5.33	6.18	9.72	8.28	10.21	10.53	6.73	8.71
Emphysema	492	18.40	19.35	24.02	21.72	25.60	25.35	26.17	26.91	26.91
Asthma	493	26.79	31.98	33.99	34.68	36.60	38.44	41.23	48.58	50.39
Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema	*519.3	43.57	38.15	31.74	28.85	24.10	16.22	15.35	8.67	6.07

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.

declined from 11.4 for 1969 to 7.6 per 100,000 for 1977, the unadjusted death rate for the newly introduced title Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema (No. *519.3) rose from 1.3 for 1969, to 11.1 per 100,000 for 1977. Thus for the combined rate (unadjusted for age) the increase amounted to 47.2 percent—from 12.7 for 1969 to 18.7 per 100,000 for 1977. As measured by age-adjusted death rates the increase between 1969 and 1977 amounted to 31.3 percent—from 9.6 to 12.6 per 100,000 (table 8).

Medical textbooks for decades have included a section on "chronic obstructive lung disease," a title that embraces a number of clinical syndromes of varying etiology and pathology that have the common feature of increased hindrance to the flow of air out of the lungs resulting from an intrapulmonary condition—including asthma, bronchitis, and emphysema. However, until recent years physicians almost always entered on the death certificate a specific diagnosis such as emphysema, bronchitis, or asthma instead of a general term or its abbreviation.

Because of this shift to the use of a general term such as "chronic obstructive lung disease," it is believed that the sequence of data for Emphysema without mention of bronchitis (ICDA No. 527.1) for 1950-67, for Emphysema (ICDA No. 492) for 1968, and for Emphysema and chronic obstructive lung disease (ICDA No. 492 and *519.3) for 1969-77 make up a more satisfactory mortality curve for the disease of "emphysema" than if deaths from No. *519.3 were not included for 1969-77.

The unadjusted death rate for this combination of causes for 1977 (18.7 per 100,000) was 23.4 times the rate for 1950 (0.8 per 100,000); and the age-adjusted death rate for 1977 (12.6 per 100,000) was 18.0 times that for 1950 (0.7 per 100,000). Although the age-adjusted death rate for these diseases rose almost without interruption during 1950-77, it did so at a decelerating rate (pp. 13, 41[2] and table 8). The

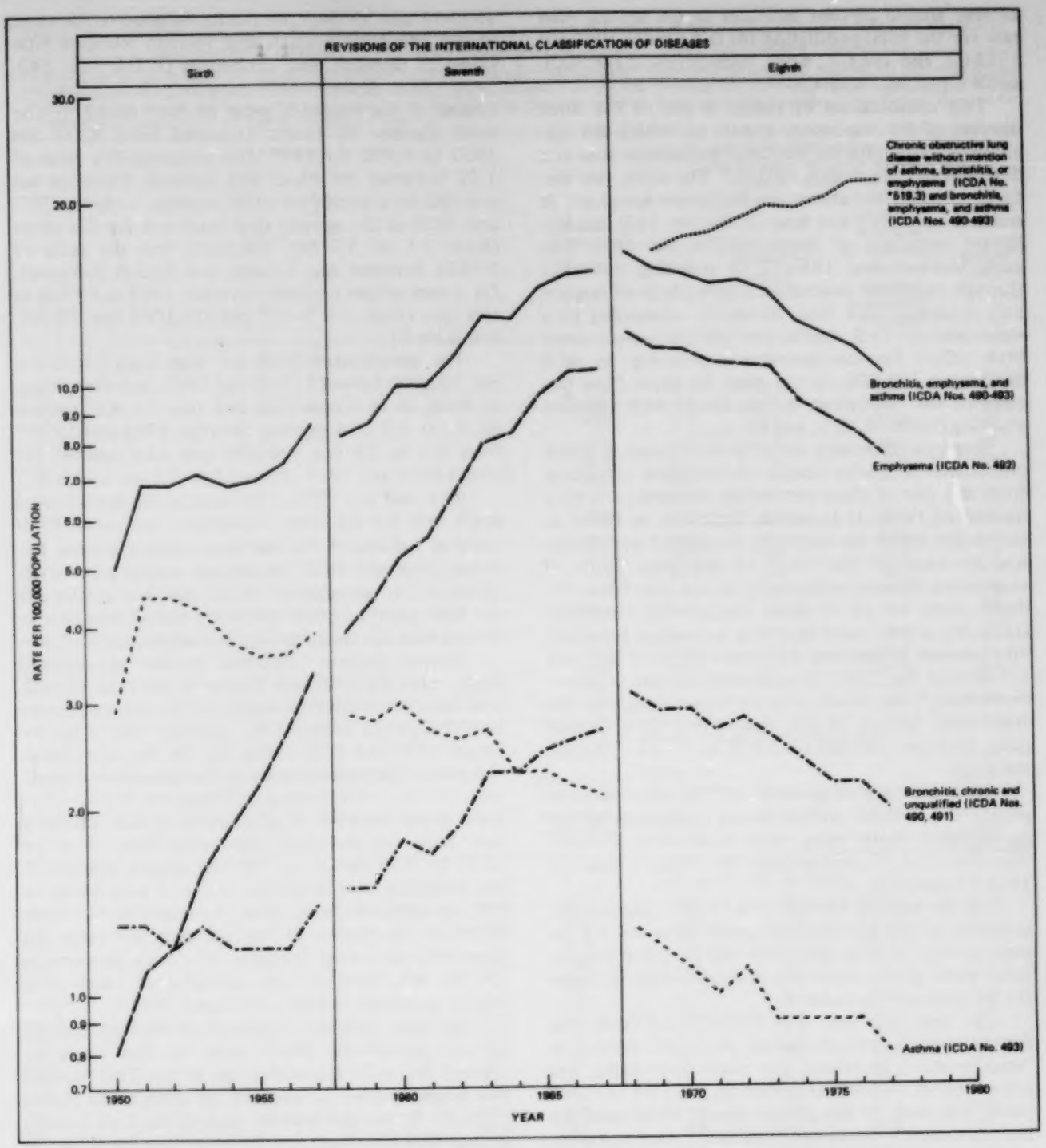


Figure 7. Death rates for Bronchitis, emphysema, and asthma, and other chronic obstructive lung diseases: United States, 1950-77

average annual percent increases in the age-adjusted rate for the total population for the periods 1950-57, 1958-67, and 1968-77 were, respectively, 21.9, 10.9, and 3.6 percent (table C).

This combination of causes is one of the three diseases of the respiratory system for which the age-adjusted death rate for the total population rose at a decelerating rate during 1950-77. The other two diseases, as presented above, are Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) and Malignant neoplasm of larynx (ICDA No. 161). The gains made during 1950-77 in reducing mortality through increased control of Tuberculosis of respiratory system (ICDA Nos. 010-012)—amounting to a reduction of 19.5 deaths per 100,000—were more than offset by the increases—amounting to 46.9 deaths per 100,000—in the rates for these three diseases of the respiratory system linked with cigarette smoking (tables M, 2, 3, and 8).

Some variation may occur in the manner in which physicians categorize deaths on the death certificate from any one of these respiratory diseases or combinations of them. It is useful, therefore, as stated in the earlier report on mortality associated with smoking, to examine the trend of mortality from all respiratory diseases collectively and singly. When the death rates for all of these diseases are combined (table M), it was found that they accounted for about 10.9 percent of the total death rate for 1977 but only 8.0 percent for 1950. This percent increase occurred even though the death rate for Tuberculosis of the respiratory system (ICDA Nos. 010-012) decreased from 20.6 per 100,000 for 1950 to 1.1 per 100,000 for 1977.

Race and sex.—For each of the four race-sex groups the average annual percent increases in the age-adjusted death rates were smaller for 1958-67 than for 1954-57, and smaller for 1968-77 than for 1958-67 (table C).

For the periods 1958-67 and 1968-77 the percent increases in the age-adjusted death rates for the female groups of both the white and all other populations were greater than the corresponding increases for the male groups (table B).

Age, race, and sex.—For 1954-77 the death rate for the combination of diseases previously defined as "emphysema" increased for each succeeding age group almost without exception from 25-34 to 75-84 years. For each of the groups except white men the increases usually continued through 85 years and over; whereas for white men the increases through 85 years and over occurred for only 7 of the 24 years in the period 1954-77.

Peptic ulcer

Total mortality.—The 1968-77 data for this cause are based on deaths assigned to the Eighth Revision title Peptic ulcer (ICDA Nos. 531-533); and for 1950-57 and 1958-67, on deaths assigned to the most nearly comparable Sixth and Seventh Revision title Ulcer of stomach and duodenum (ICDA Nos. 540, 541). This disease, with relatively low mortality, ranked as the sixteenth cause of death in 1977. The total number of deaths decreased from 8,214 for 1950 to 5,900 for 1977. The comparability ratio of 1.01 between the Sixth and Seventh Revisions accounted for a small part of the increase between 1957 and 1958 in the age-adjusted death rate for this cause (from 5.1 to 5.3 per 100,000); and the ratio of 0.9856 between the Seventh and Eighth Revisions, for a part of the decrease between 1967 and 1968 in this rate (from 3.9 to 3.7 per 100,000) (pp. 58-59[7] and table F).

The age-adjusted death rate rose from 5.0 to 5.1 per 100,000 between 1950 and 1957; and then began to drop, at an accelerating rate (pp. 15, 42[2] and table 9). It fell 26.4 percent between 1958 and 1967—from 5.3 to 3.9 per 100,000; and 51.4 percent between 1968 and 1977—from 3.7 to 1.8 per 100,000.

Race and sex.—These declines in the age-adjusted death rate for the total population proceeded from unequal reductions for the four race-sex groups. Between 1968 and 1977 the average annual percent decrease in the age-adjusted death rate was greater for the male groups of both the white and all other populations than for their female counterparts (table C).

Greater percent decreases in the age-adjusted death rates for both race groups in the male population than for their counterparts in the female population resulted in lowering the mortality sex ratios between 1950 and 1977 (table D). On the other hand, the greater percent decrease in the age-adjusted death rate for the white male group than for the all other male group resulted in an increase in the mortality race ratio for the male population—from 0.98 for 1950 to 1.15 for 1977. For the female population the mortality race ratios for 1950-77 were based on low age-adjusted death rates. As might be expected, therefore, the pattern for the mortality race ratios for them was somewhat irregular. For both race groups of this sex, however, the age-adjusted death rates clearly decreased between 1958 and 1977.

Age, race, and sex.—For each of the four race-sex groups, age-specific death rates for this cause increased for each succeeding age group. This increase was generally true for each of the years in the period 1950-77. It was also true for each of the four race-sex groups that the death rate for this cause for every 10-year age group 25-34 through 65-74 years decreased between 1950 and 1977.

Malignant neoplasm of esophagus

Total mortality.—The unadjusted death rate for Malignant neoplasm of esophagus (ICDA No. 150) rose 30.8 percent between 1950 and 1977—from 2.6 to 3.4 per 100,000 (pp. 16, 43[2] and table 10). Part of

Table M. Death rates for All causes and for Diseases of the respiratory system, including Tuberculosis of respiratory system, Malignant neoplasm of respiratory system, Asthma, and other specified diseases of the respiratory system: United States, 1960-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adopted for Use in the United States, 1965 (ICDA). The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics. Rates are based on deaths classified according to the Seventh Revision for 1960-67 and according to the Eighth Revision for 1968-77]

Year	All causes of death	Diseases of the respiratory system, including Tuberculosis, Malignant neoplasm of respiratory system, and Asthma			
		Total	Tuberculosis of respiratory system (010-012)	Malignant neoplasm of respiratory system not specified as secondary (160-163)	Asthma (493)
	Rate per 100,000 population				
1977[1]	878.1	96.1	1.1	44.0	0.8
1976[1]	889.6	100.0	1.1	42.5	0.9
1975[1]	888.5	94.5	1.2	40.7	0.9
1974[1]	915.1	92.5	1.3	39.5	0.9
1973[1]	940.2	95.3	1.4	37.8	0.9
1972[1,2]	943.2	94.4	1.7	37.0	1.1
1971[1]	934.7	89.5	1.7	35.4	1.0
1970[1]	945.3	91.7	2.0	34.2	1.1
1969	954.4	92.9	2.2	32.8	1.2
1968	967.9	96.3	2.5	31.8	1.3
1967	937.6	84.2	3.2	29.4	2.1
1966	952.6	86.9	3.6	28.1	2.2
1965	944.6	84.6	3.8	26.9	2.3
1964	940.7	81.2	4.0	25.7	2.3
1963	962.2	88.0	4.6	24.9	2.7
1962	945.6	79.9	4.7	24.0	2.6
1961	929.8	75.9	5.0	23.1	2.7
1960	954.7	83.3	5.6	22.2	3.0

Year	Other specified diseases of respiratory system					
	Total	Chronic and unqualified bronchitis (490, 491)	Emphysema and Chronic obstructive lung disease (492, *519.3)	Influenza (470-474)	Pneumonia (480-486)	Residual diseases of respiratory system
	Rate per 100,000 population					
1977[1]	50.3	2.0	18.7	0.6	23.1	6.0
1976[1]	55.5	2.2	18.3	3.7	25.2	6.2
1975[1]	51.7	2.2	17.1	2.0	24.1	6.2
1974[1]	50.8	2.4	16.2	1.0	24.9	6.3
1973[1]	55.1	2.6	16.0	2.4	27.4	6.6
1972[1,2]	54.7	2.8	14.7	2.4	27.7	7.0
1971[1]	51.4	2.7	14.0	0.7	27.0	6.9
1970[1]	54.3	2.9	13.4	1.8	29.0	7.1
1969	56.7	2.9	12.7	3.0	31.0	7.1
1968	60.6	3.1	12.1	3.5	33.3	8.5
1967	49.5	2.7	10.6	0.7	28.1	7.4
1966	53.0	2.6	10.4	1.4	31.1	7.5
1965	51.6	2.5	9.6	1.2	30.8	7.4
1964	49.1	2.3	8.3	0.9	30.2	7.4
1963	55.9	2.3	8.0	3.8	33.8	8.0
1962	48.5	1.9	6.7	1.8	30.4	7.7
1961	45.1	1.7	5.6	1.2	29.0	7.7
1960	52.5	1.8	5.2	4.4	32.9	8.3

[1]Excludes deaths of nonresidents of the United States.
[2]Based on a 50-percent sample of deaths.

this rise was attributable to the changing age composition of the population. The age-adjusted death rate rose only from 2.3 to 2.6 per 100,000. These increases in the death rates for this cause corresponded to an increase in the number of deaths from 3,866 for 1950 to 7,283 for 1977.

Race and sex.—The 7,283 deaths from this cause for 1977 were distributed by race and sex as follows: 3,924 and 1,520 deaths for the male and female groups of the white population, and 1,404 and 435 deaths for the male and female groups of the all other population.

Malignant neoplasm of esophagus (ICDA No. 150) is one of 8 among the 14 causes of death examined in this report for which the level of mortality (as measured by age-adjusted rates) was higher for 1977 for the all other male group than for the white male group. The other seven causes are Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162); Malignant neoplasm of larynx (ICDA No. 161); Cirrhosis of liver (ICDA No. 571); Peptic ulcer (ICDA Nos. 531-533); Malignant neoplasm of buccal cavity and pharynx, excluding lip (ICDA Nos. 141-149); the group of specified noncoronary cardiovascular diseases shown in table 13; and Malignant neoplasm of pancreas (ICDA No. 157). The level of mortality for 1977 for all eight of these causes except Malignant neoplasm of trachea, bronchus, and lung (ICDA No. 162) was also higher for the all other female group than for the white female group. For the excepted cause the age-adjusted death rate for the white female group (14.9 per 100,000) was, as previously indicated, about the same as that for the all other female group (14.8 per 100,000).

The relatively small increase between 1950 and 1977 of 13.0 percent in the total age-adjusted death rate for Malignant neoplasm of esophagus (ICDA No. 150) gives no indication that the age-adjusted rates for each of the sex groups of the all other population almost doubled during this period. The impact on the age-adjusted rate for the total population of these large increases in the death rates for the smaller number of persons of each sex in the all other population (who constituted only 10.5 percent of the population of 150,697,361 in 1950, and 13.4 percent of the estimated 216,332,000 population in 1977) was much less than the impact of the smaller increases in the rates for the larger number of persons of each sex in the white population (table F).

For the white population the sex ratio decreased between 1968 and 1977 (from 3.67 to 3.40), reflecting the greater relative increases in the age-adjusted death rate for the female than for the male group (table D). For the all other population the sex ratio decreased between 1958 and 1967 and between 1968 and 1977, reflecting the greater relative increases in the age-adjusted death rate for the female than for the male group of this population.

On the other hand, the smaller percent increase in the age-adjusted death rate for each sex of the white population than for the corresponding sex of the all other population resulted in raising the mortality race ratio for both the male and female groups. For the male group increases in the race ratio occurred between 1950 and 1957, 1958 and 1967, and 1968 and 1977; while for the female group increases occurred only for the latter two periods (table D).

Age, race, and sex.—For both the male and female groups of the white population, age-specific death rates for Malignant neoplasm of esophagus (ICDA No. 150) increased for each succeeding age group to the end of the lifespan. This pattern of increase occurred almost without exception for each of the years in the period 1950-77 (table 10). A different pattern held for the all other population. For the male group of this population the death rate usually peaked for the age group 65-74 years. For their female counterparts, however, the pattern was irregular, with the death rate peaking at ages 55-64 years for about half of the period, and at older ages for the remaining years.

For adults of the four race-sex groups except white men the death rate for this cause between 1950 and 1977 generally increased for every 10-year age group from 45-54 through 75-84 years. The greatest increases at these ages were for all other men and women.

At ages 35-44 years the 1977 death rate for Malignant neoplasm of esophagus (ICDA No. 150) for all other men was 8 times the corresponding rate for white men (table 10). At ages 45-54 years the death rate for this cause for all other men was 6 times the corresponding rate for white men; and at ages 55-64 years, 4 times the corresponding rate for white men.

The mortality race ratios for 1977 for women at ages 35-44 and 45-54 years were higher than for men at these ages. For all other women at ages 35-44 years the 1977 death rate for this cause was 13 times the corresponding rate for white women; and at ages 45-54 years, 8 times the corresponding rate for white women.

Malignant neoplasm of buccal cavity and pharynx, excluding lip

Sites of the oral cavity other than the lip include the tongue, salivary gland, floor of mouth, mesopharynx, and hypopharynx. The title (and category numbers) for this group is Malignant neoplasm of buccal cavity and pharynx, excluding lip (ICDA Nos. 141-149).

Total mortality.—The introduction of the Seventh Revision in 1958 did not cause a sizable break in continuity of mortality statistics for malignant neoplasm of these sites. On the other hand, between 1967 and 1968 the small increases in both the unadjusted and age-adjusted death rates (from, respectively, 3.3 to

3.6 and 2.8 to 2.9 per 100,000) are attributable in part to changes in coding procedures between the Seventh and Eighth Revisions.[8,10,11] Consequently, the analysis of the trend for this cause is limited to 1950-67 and 1968-77.

During 1950-67 the unadjusted death rate for the total population increased from 3.1 to 3.3 per 100,000; but the corresponding age-adjusted rate remained quite stable, with a rate of 2.8 for both 1950 and 1967 (pp. 17, 44[2] and table 11). During 1968-77 the unadjusted rate for the total population increased from 3.6 to 3.8 per 100,000; and the age-adjusted rate, from 2.9 to 3.1 per 100,000. This latter increase amounted to 6.9 percent and represents an increase in the number of deaths assigned to this cause from 7,110 for 1968 to 8,291 for 1977.

Race and sex.—The stability of the age-adjusted death rate for 1950-67 proceeds from the offsetting of the impact on the rate of the decrease in the age-adjusted rate for the white male group (from 4.5 to 4.4 per 100,000) by increases in the rates for the other three race-sex groups (from 1.1 to 1.3 per 100,000 for the white female group; 4.1 to 6.3 per 100,000 for the all other male group; and 1.6 to 1.8 per 100,000 for the all other female group). For 1968-77 the increase in the age-adjusted death rate for the total population also proceeds from increases in the rates for each of the four race-sex groups except the white male group. For this group, the rate again fell—from 4.7 to 4.4 per 100,000. The largest increases in the age-adjusted death rates were for the male and female groups of the all other population. For the former group the rate increased 22.2 percent between 1968 and 1977 (from 6.3 to 7.7 per 100,000); and for the latter, 17.6 percent (from 1.7 to 2.0 per 100,000).

As a result of these unequal changes in the age-adjusted death rate the mortality sex ratio for the white population decreased from 4.09 to 3.38 between 1950 and 1967, and from 3.36 to 2.93 between 1968 and 1977 (table D).

Conversely the mortality sex ratio for the all other population increased from 2.56 to 3.50 between 1950 and 1967 and from 3.71 to 3.85 between 1968 and 1977. The mortality race ratio for the male population increased from 0.91 to 1.43 between 1950 and 1967, and from 1.34 to 1.75 between 1968 and 1977; while the race ratio for the female population decreased from 1.45 to 1.38 between 1950 and 1967, but increased from 1.21 to 1.33 between 1968 and 1977.

Age, race, and sex.—For white men the death rate for these sites was lower for 1977 than for 1960 for the age groups 35-44, 45-54, 75-84, and 85 years and over, but was higher for 1977 for the age groups 55-64 and 65-74 years. The rate for 1977 was also higher than for 1960 for white women at ages 55-64 and 65-74 years. For all other men the 1977 rate was higher than the corresponding rate for 1960 for every 10-year age group from 35-44 through 75-84 years. For all other women the higher 1977 rates occurred only at ages 35-44, 45-54, and 55-64 years.

Malignant neoplasm of bladder

Total mortality.—For 1968-77 data for this cause are based on deaths assigned to the Eighth Revision title Malignant neoplasm of bladder (ICDA No. 188); and for 1950-57 and 1958-67, on deaths assigned to the most nearly comparable Sixth and Seventh Revision title Malignant neoplasm of bladder and other urinary organs (ICD No. 181). No appreciable break occurred in mortality statistics resulting from the selection of these titles. The Seventh Revision subtitle Malignant neoplasm of bladder (ICD No. 181.0) constitutes 97.7 percent of Malignant neoplasm of bladder and other urinary organs (ICD No. 181). The selection of ICD No. 181 and ICDA No. 188 as the set of most nearly comparable category numbers yields a comparability ratio of 1.0014.

The number of deaths attributed to Malignant neoplasm of bladder (ICDA No. 188) increased from 6,401 to 9,812 between 1950 and 1977. The unadjusted death rate for this cause rose between 1950 and 1977 from 4.2 to 4.5 per 100,000; while the age-adjusted death rate fell from 3.7 to 2.9 per 100,000 (pp. 18, 45[2] and tables F and 12).

Race and sex.—The age-adjusted death rate for Malignant neoplasm of bladder (ICDA No. 188) decreased between 1950 and 1977 for each of the four race-sex groups; and the unadjusted death rate decreased for three of the four race-sex groups—rising only for the white male group. This increase reflected in part the aging of this latter group.

The age-adjusted death rate for the white male group, who had the highest rates (both unadjusted and age-adjusted), decreased 5.7 percent; and the age-adjusted death rate for the all other male group, who had the second highest rates, decreased 2.6 percent. The much lower age-adjusted death rate for the white female group decreased 36.4 percent; and that for the all other female group, 25.9 percent.

Age, race, and sex.—For white men the death rate for Malignant neoplasm of bladder (ICDA No. 188) was lower for 1977 than for 1960 for each 10-year age group from 45-54 through 65-74 years, but at older ages was higher for 1977. For white women, however, the death rate was lower for 1977 than for 1960 for every 10-year age group from 45-54 through 75-84 years, and for the group 85 years and over.

For all other men the death rate was higher for 1977 than for 1960 only for the age groups 65-74, 75-84, and 85 years and over; and for all other women, higher for the age groups 75-84 and 85 years and over. These decreases in the death rate at younger ages and increases at older ages are consistent

with the finding that the survival rates have increased for bladder cancer patients.[12]

Specified noncoronary cardiovascular diseases

Five groups of diseases of the cardiovascular system that may be associated with smoking are (according to Eighth Revision titles):

Chronic disease of endocardium and other myocardial insufficiency	424, 428
All other forms of heart disease	420-423, 425-427, 429
Hypertensive heart disease with or without renal disease	402, 404
Diseases of arteries, arterioles, and capillaries (excluding Arteriosclerosis); and Diseases of veins and lymphatics and other diseases of circulatory system	441-448, 450-458
Arteriosclerosis	440

Major changes in classification and coding procedures used with the Eighth Revision (for 1968-78) caused serious discontinuities in the causes of death shown in table 13. These discontinuities are evident when the death rates for 1968 in this table are compared with the corresponding rates for 1967 (the last year for which the Seventh Revision was in use). Details of these changes are presented in the study of comparability of mortality statistics between the Seventh and Eighth Revision (pp. 5-6[7]). Because of these disruptions in the trends, analyses of these causes are limited to the decade 1968-77, for which the Eighth Revision was in use.

Total mortality.—For 1977 the age-adjusted death rate for the combination of five causes shown in table 13 was 40.5 deaths per 100,000. This rate constituted 14.5 percent of the 1977 age-adjusted death rate for the large group of diseases assigned according to the Eighth Revision to the titles in chapter VII—Diseases of the Circulatory System. For these diseases the absolute decrease between 1968 and 1977 in the age-adjusted death rate amounted to 88.7 per 100,000; whereas the corresponding decrease for the five noncoronary cardiovascular diseases amounted to only 4.5 per 100,000—from 45.0 to 40.5 per 100,000.

The only cause among these five diseases for which the age-adjusted death rate increased between 1968 and 1977 was All other forms of heart disease (ICDA Nos. 420-423, 425-427, 429). For this residual group of heart diseases the increase in the age-adjusted death rate (from 10.9 to 16.8 per 100,000) was much smaller than the increase in the unadjusted death rate (from 14.1 to 24.6 per 100,000). This difference indicates that the increase in the number of deaths assigned to this cause is largely attributable to the aging of the population.

Race and sex.—The decrease between 1968 and 1977 of 10.0 percent in the age-adjusted death rate for the total of the five noncoronary cardiovascular diseases shown in table 13 (from 45.0 to 40.5 per 100,000) reflects a lowering of the rate for each of the four race-sex groups, but especially for both sexes of the all other population. For the male group of this population the age-adjusted death rate decreased 14.1 percent (from 86.7 to 74.5 per 100,000); and for their female counterparts, 20.9 percent (from 66.0 to 52.2 per 100,000). The corresponding decreases for the white population were 4.6 percent for the male group (from 51.9 to 49.5 per 100,000) and 13.6 percent for the female group (from 33.2 to 28.7 per 100,000).

The upturn in the age-adjusted death rate for All other forms of heart disease (ICDA Nos. 420-423, 425-427, 429) reflected substantial percent increases in these rates for each of the four race-sex groups, but especially for both sexes of the white population. For the white male group the age-adjusted death rate increased 65.6 percent (from 12.5 to 20.7 per 100,000) and for the white female group, 57.4 percent (from 6.8 to 10.7 per 100,000). Nevertheless the age-adjusted death rate for the male and female groups of the white population continued through 1977 to be much lower than the rates for the corresponding groups of the all other population. In this latter population the age-adjusted death rate for the male group increased 31.2 percent—from 29.2 to 38.3 per 100,000; and for the female group, 20.9 percent—from 19.6 to 23.7 per 100,000.

The reduction between 1968 and 1977 in the age-adjusted death rate for Chronic disease of endocardium and other myocardial insufficiency (ICDA Nos. 424, 428)—from 2.8 to 1.2 per 100,000—reflected large decreases in the age-adjusted death rate for each of the four race-sex groups. The greatest decreases were for both sexes of the all other population—with a decrease of 68.3 percent for the male group (from 6.0 to 1.9 per 100,000), and 61.9 percent for the female group (from 4.2 to 1.6 per 100,000).

The age-adjusted death rate for Hypertensive heart disease with or without renal disease (ICDA Nos. 402, 404) declined 50.8 percent between 1968 and 1977—from 6.1 to 3.0 per 100,000. Again the greatest decreases for this cause were for both sexes of the all other population. For the male group of this population the age-adjusted death rate declined from 16.2 to 7.8 per 100,000; and for the female group, from 15.9 to 7.0 per 100,000. The corresponding decreases by sex for the white population were from 5.3 to 2.6 per 100,000 for the male group, and from 4.8 to 2.3 per 100,000 for the female group.

For the total population the age-adjusted death rate for the following combination of diseases declined 14.7 percent between 1968 and 1977 (from 15.6 to 13.3 per 100,000): Diseases of arteries, arterioles, and capillaries (excluding arteriosclerosis); and Diseases of veins and lymphatics and other

diseases of circulatory system (ICDA Nos. 441-448, 450-458) (table 13). Again, as for Hypertensive heart disease with or without renal disease (ICDA Nos. 402, 404), the greatest decreases occurred for both sexes of the all other population. For the male group of this population the age-adjusted death rate declined 18.0 percent—from 24.5 to 20.1 per 100,000; and for the female group, 14.9 percent—from 17.4 to 14.8 per 100,000. The corresponding decreases for the white population were 13.3 percent for the male group (from 20.3 to 17.6 deaths per 100,000) and 13.9 percent for the female group (from 10.8 to 9.3 deaths per 100,000).

During 1968-77 the reduction by 35.4 percent in the age-adjusted death rate for Arteriosclerosis (ICDA No. 440)—from 9.6 to 6.2 per 100,000—reflected sizable reductions in the deaths assigned to this cause for each of the four race-sex groups. The greatest percent reductions occurred for both sexes of the all other population. For the male group of this population the age-adjusted death rate declined 40.7 percent—from 10.8 to 6.4 per 100,000; and for the female group, 42.7 percent—from 8.9 to 5.1 per 100,000. The corresponding decreases by sex for the white population were 33.3 percent for the male group (from 10.8 to 7.2 deaths per 100,000) and 36.8 percent for the female group (from 8.7 to 5.5 deaths per 100,000).

Malignant neoplasm of pancreas

Total mortality.—The number of deaths from Malignant neoplasm of pancreas (ICDA No. 157) was 420,303 for 1950-77—with 85,177 deaths for 1950-57, 149,067 deaths for 1958-67, and 186,059 deaths for 1968-77. The unadjusted death rate for this cause increased at a decelerating rate between 1950 and 1977. The increases were 22.0 percent between 1950 and 1957, 16.2 percent between 1958 and 1967, and 9.2 percent between 1968 and 1977 (table 14).

Part of these increases may be attributed to the aging of the population. The age-adjusted death rate rose from 5.3 per 100,000 for 1950 to a peak of 6.8 for 1968 and then remained quite stable through 1977 at about 6.7 (tables N and 14).

The average annual percent changes for age-adjusted death rates were an increase of 1.8 percent for 1950-57, an increase of 1.0 percent for 1958-67, and a decrease of 0.2 percent for 1968-77 (table C). No appreciable part of these changes may be attributed to revision of the International Classification of Diseases.

Race and sex.—The increases between 1950 and 1957 and between 1958 and 1967 in the age-adjusted death rate for Malignant neoplasm of pancreas (ICDA No. 157) reflect increases in the rates for each of the four race-sex groups, with the smallest percent increase for the white female group and the largest for the all other male group (table B). For 1950, the male and female groups of the white population had higher age-adjusted rates, respectively, than did the male and female groups of the population of all other races. This relationship, however, fluctuated for the male population and was reversed in 1955. After 1955, the age-adjusted rates were considerably higher for the all other male and female groups than for their counterparts in the white population.

The percent decrease (−1.5) in the age-adjusted death rate between 1968 and 1977 reflects the

Table N. Age-adjusted death rates for Malignant neoplasm of pancreas and Malignant neoplasm of kidney, by race and sex: United States, specified years during 1950-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA). The years 1958 and 1968 were the first years, respectively, in which the Seventh and Eighth Revisions were in use in the United States. For 1950 and 1957 the Sixth Revision was in use]

Cause of death and year	Total	White		All other	
		Male	Female	Male	Female
	Rate per 100,000 population				
Malignant neoplasm of pancreas (157)					
1977	6.7	8.3	5.2	10.5	6.6
1968	6.8	8.6	5.0	10.4	6.1
1967	6.7	8.6	4.9	9.7	6.0
1958	6.1	7.6	4.6	8.5	5.3
1957	6.0	7.5	4.6	8.1	4.7
1950	5.3	6.4	4.3	5.3	3.4
Malignant neoplasm of kidney (189.0-189.2)					
1977	2.6	3.8	1.7	2.9	1.4
1968	2.5	3.6	1.7	3.1	1.2
1967	2.4	3.5	1.7	2.9	1.3
1958	2.3	3.2	1.7	2.4	1.2
1957	2.4	3.2	1.7	2.3	1.1
1950	2.2	2.8	1.6	1.7	1.2

countervailing effect of a decrease in the rate for the white male group and increases in the rate for the other three race-sex groups (table B). The increase for other than white females was greater than that for white females. Similarly, for 1950-57 and 1958-67, the average annual percent increases were greater for the other than white male and female groups than for the comparable groups in the white population.

The average annual percent changes for 1950-57, 1958-67, and 1968-77 show a reversal of the upward trend for white males and declining increases for the other three race-sex groups. The age-adjusted death rate for the white female group increased slowly but persistently throughout 1950-77 (from 4.3 to 5.2 per 100,000). For the white male group the rate rose between 1950 and 1967-68 (from 6.4 to 8.6 per 100,000) and then turned downward to 8.3 per 100,000 for 1977. For the population of races other than white, there was a small increase during 1968-77 in the age-adjusted rate for the male group (from 10.4 to 10.5 per 100,000) and a larger increase for the female group (from 6.1 to 6.6 per 100,000).

The downturn in the rate for the white male group together with the upturn during 1950-67 and the near stability during 1968-77 of the rate for the all other male group account for the increase in the mortality race ratio for the male population—from 0.83 for 1950 to 1.27 for 1977. The greater increase in the age-adjusted rate for the all other female group than for the white female group is reflected in the increase in the race ratio for the female population—from 0.79 for 1950 to 1.27 for 1977 (table O).

Age, race, and sex.—For white men in every 10-year age group 25-34 through 75-84 years, changes in the death rates for Malignant neoplasm of pancreas (ICDA No. 157) generally were upward during 1950-67. The direction was reversed, however, during 1968-77 for age groups 25-34 through 65-74 years. For the age group 75-84 years the upturn in the rate continued throughout 1968-77 (table 14). The percent decrease in the rates was greatest for the younger age groups of white men.

For men of races other than white, age-specific rates after rising quite steadily during the 1950's and early 1960's also exhibited either a leveling off or a clear downward trend in the younger age groups, but in age group 55-64 and above the trend continued generally upward throughout 1950-77 (table 14).

For white and all other women the death rate for this cause generally was upward throughout the entire period 1950-77 for all 10-year age groups. These changes in trends for the age-specific rates did not alter the long observed pattern of increased risk of dying from Malignant neoplasm of pancreas (ICDA No. 157) with advancing age. The death rate for the cohort of white men born during 1903-07, for example, rose from 6.0 per 100,000 when they were 45-49 years of age in 1952 to 68.1 per 100,000 when they

Table O. Mortality sex ratios by race and mortality race ratios by sex for Malignant neoplasm of pancreas and Malignant neoplasm of kidney: United States, specified years during 1950-77

[Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA). The years 1958 and 1968 were the first years, respectively, in which the Seventh and Eighth Revisions were in use in the United States. For 1950 and 1957 the Sixth Revision was in use]

Cause of death and year	Mortality sex ratio by race		Mortality race ratio by sex	
	White[1]	All other[1]	Male[2]	Female[2]
Malignant neoplasm of pancreas (157)				
1977	1.60	1.59	1.27	1.27
1968	1.72	1.70	1.21	1.22
1967	1.76	1.62	1.13	1.22
1958	1.65	1.60	1.12	1.15
1957	1.63	1.72	1.08	1.02
1950	1.49	1.56	0.83	0.79
Malignant neoplasm of kidney (189.0-189.2)				
1977	2.24	2.07	0.76	0.82
1968	2.12	2.58	0.86	0.71
1967	2.06	2.23	0.83	0.76
1958	1.88	2.00	0.75	0.71
1957	1.88	2.09	0.72	0.65
1950	1.75	1.42	0.61	0.75

[1]The race-specific age-adjusted death rate for the specified year for the male population divided by the corresponding race-specific death rate for the female population.

[2]The sex-specific age-adjusted death rate for the specified year for the population of races other than white divided by the corresponding sex-specific rate for the white population.

were 70-74 years of age in 1977 (table P). Similar increases with advancing age were observed for men of other races and for both white and all other women.

With few interruptions the mortality sex ratio decreased with advancing age for both the white population and the population of all other races. Although this pattern was similar for 1977 and 1968, there was a decrease in the sex ratios for most 10-year age groups during the period.

Malignant neoplasm of kidney

Total mortality.—The number of deaths from Malignant neoplasm of kidney (ICDA Nos. 189.0-189.2) was 152,676 for 1950-77—with 32,908 deaths for 1950-57, 53,263 for 1958-67, and 66,505 for 1968-77. The unadjusted rate for this cause increased, at a decelerating rate, from 2.4 per 100,000 for 1950 to 3.4 per 100,000 for 1977 (table 15). No appreciable part of these increases results from revisions of the *International Classification of Diseases.*

Part of these increases in the unadjusted rate may be attributed to the aging of the population: for the age-adjusted rate rose from 2.2 per 100,000 for 1950 to only 2.6 per 100,000 for 1977 (table N). The average annual percent increases for age-adjusted death rates for these three periods declined—from 1.3 percent for 1950-57 to 0.5 percent for 1958-67 and to 0.4 percent for 1968-77 (table C).

Race and sex.—The increases between 1950 and 1977 in the age-adjusted rate for Malignant neoplasm of kidney (ICDA Nos. 189.0-189.2) reflect disparate changes in the age-adjusted rates for the four race-sex groups. For the white male group the average annual increase in the age-adjusted rate was 1.9 percent for 1950-57, 1.0 for 1958-67, and 0.6 for 1968-77 (table C). Throughout 1950-77 the white male group had higher age-adjusted rates for this cause than did the other three race-sex groups (tables 15 and N).

For the all other male group the age-adjusted rate for this cause (which was higher throughout 1950-77 than those for their female counterparts) increased 4.4 percent annually for 1950-57, increased 2.1 percent annually for 1958-67, and decreased 0.7 percent annually for 1968-77 (table C).

For the white female group the age-adjusted rate

Table P. Death rates for Malignant neoplasm of pancreas for cohort born 1903-07, by race, sex, and age at death: United States, 5-year intervals during 1952-77

[For 1972 and 1977 rates are based on deaths assigned to category number 157 of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA); for 1962 and 1967 and for 1952 and 1957, on deaths assigned to category number 157 of the Seventh and Sixth Revisions, adopted by the World Health Organization, respectively, in 1955 and 1948]

Race, sex, and year of death from Malignant neoplasm of pancreas	*Age at death (in years) for cohort born 1903-07*	*Death rate per 100,000 population*
White men		
1977	70-74	68.1
1972	65-69	52.0
1967	60-64	36.8
1962	55-59	22.6
1957	50-54	11.8
1952	45-49	6.0
All other men		
1977	70-74	84.1
1972	65-69	57.1
1967	60-64	48.1
1962	55-59	24.8
1957	50-54	14.6
1952	45-49	9.4
White women		
1977	70-74	43.3
1972	65-69	30.7
1967	60-64	20.1
1962	55-59	11.4
1957	50-54	6.6
1952	45-49	2.9
All other women		
1977	70-74	58.4
1972	65-69	37.9
1967	60-64	25.9
1962	55-59	17.8
1957	50-54	10.8
1952	45-49	5.2

increased between 1950 and 1957 (from 1.6 to 1.7 per 100,000) and remained at about the 1957 level throughout 1958-77 (tables 15 and B). The all other female group had the lowest age-adjusted rate among the four race-sex groups throughout 1950-77. For the all other female group the rate rose from 1.2 to 1.4 per 100,000 population (tables 15 and B). The mortality sex ratio for the white population increased steadily from 1.75 for 1950 to 2.24 for 1977 (table C), reflecting the rise of the age-adjusted death rate for the male group and the relative stability of the rate for the female group (table 15).

For races other than white the mortality sex ratio was lower in 1950 than that for the white population, but it increased more rapidly and exceeded the ratio for the white population for all other years shown in table O except for 1977.

The mortality race ratio for both the male and female populations increased between 1950 and 1977, but for 1977 was still considerably less than 1.00, indicating that the male and female groups of the white population continued throughout 1950-77 to have higher age-adjusted rates than did the respective groups in the population of races other than white (table 15).

Age, race, and sex.—For most 10-year age groups 45-54 through 75-84 years of age for white and all other men and women, death rates for Malignant neoplasm of kidney (ICDA Nos. 189.0-189.2) were upward throughout 1950-77 (tables 15). Cohort (or generation) age curves show that there was also increased risk of dying from this cause with advancing age (table Q).

Men had higher death rates for Malignant neoplasm of kidney (ICDA Nos. 189.0-189.2) than women. This was true for both the white and all other populations for every 10-year age group in the span 35-44 through 75-84 years for both 1968 and 1977. For the white population in both years and for the all other population in 1968 the percent difference was greatest for age group 45-54 years; for the all other population in 1977 it was greatest for age

Table Q. Death rates for Malignant neoplasm of kidney for cohort born 1903-07, by race, sex, and age at death: United States, 5 year intervals during 1952-77

[For 1972 and 1977 rates are based on deaths assigned to category numbers 189.0-189.2 of the Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1965 (ICDA); for 1962 and 1967 and for 1952 and 1957, on deaths assigned to category number 180 of the Seventh and Sixth Revisions, adopted by the World Health Organization, respectively, in 1955 and 1948]

Race, sex, and year of death from Malignant neoplasm of kidney	*Age at death (in years) for cohort born 1903-07*	*Death rate per 100,000 population*
White men		
1977	70-74	26.6
1972	65-69	21.1
1967	60-64	14.0
1962	55-59	9.2
1957	50-54	6.5
1952	45-49	3.8
All other men		
1977	70-74	16.4
1972	65-69	13.0
1967	60-64	13.2
1962	55-59	7.0
1957	50-54	6.1
1952	45-49	3.4
White women		
1977	70-74	12.5
1972	65-69	10.7
1967	60-64	5.6
1962	55-59	4.1
1957	50-54	2.9
1952	45-49	1.1
All other women		
1977	70-74	8.9
1972	65-69	7.1
1967	60-64	5.6
1962	55-59	5.5
1957	50-54	1.8
1952	45-49	1.5

group 55-64 years. In 1977 the death rate for men at ages 45-54 years was 2.5 times that for women for both the white and all other groups.

The mortality sex ratio was greater in 1977 than in 1968 for the white population in age groups under 45 years and smaller for those in the age span 45-74 years. For races other than white the ratios were the same in both years for the age group 25-34 years and smaller in 1977 than in 1968 for the age groups 35 years and over.

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Table 1. Death rates for All causes, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	878.1	136.2	247.5	620.7	1,434.9	3,055.6	7,181.9	14,725.9	612.3
1976[1]	889.6	136.2	254.1	634.8	1,475.6	3,127.6	7,331.6	15,486.9	627.5
1975[1]	888.5	143.2	266.8	649.6	1,495.5	3,189.2	7,359.2	15,187.9	638.3
1974[1]	915.1	146.8	278.5	675.0	1,549.2	3,327.6	7,654.8	16,532.8	666.2
1973[1]	940.2	153.6	295.9	697.4	1,611.9	3,440.0	7,932.1	17,429.4	692.9
1972[1,2]	943.2	153.9	302.1	710.4	1,631.1	3,526.9	7,965.4	17,351.8	701.8
1971[1]	934.7	156.5	307.5	710.2	1,622.8	3,486.2	7,866.6	17,426.4	699.9
1970[1]	945.3	157.4	314.5	730.0	1,658.8	3,582.7	8,004.4	16,344.9	714.3
1969	954.4	158.7	321.4	732.5	1,661.3	3,632.7	8,097.5	18,821.8	728.5
1968	967.9	157.2	319.8	751.3	1,704.4	3,724.0	8,293.5	19,582.7	743.8
1967	937.6	151.9	309.7	736.3	1,657.2	3,624.6	8,093.6	19,223.2	725.6
1966	952.6	153.0	309.9	749.5	1,685.3	3,702.0	8,354.4	19,981.2	742.2
1965	944.6	150.8	307.4	746.6	1,683.4	3,662.8	8,358.6	20,069.0	739.0
1964	940.7	151.6	306.1	745.3	1,689.1	3,664.4	8,317.0	19,924.2	739.4
1963	962.2	148.1	303.4	752.4	1,721.7	3,792.6	8,631.9	20,991.1	756.9
1962	945.6	144.9	298.4	743.8	1,691.8	3,736.0	8,500.4	20,489.1	745.5
1961	929.8	143.3	292.6	732.4	1,675.2	3,690.7	8,399.2	19,634.3	735.6
1960	954.7	146.4	299.4	756.0	1,735.1	3,822.1	8,745.2	19,857.5	760.9
White, male									
1977[1]	998.2	165.9	276.6	747.8	1,848.9	4,181.3	9,440.7	18,041.7	781.5
1976[1]	1,010.4	161.7	283.7	765.9	1,915.5	4,281.1	9,595.0	18,767.6	798.8
1975[1]	1,015.3	169.1	295.8	790.2	1,954.5	4,355.8	9,608.1	18,257.9	812.7
1974[1]	1,041.6	170.6	305.1	820.3	2,026.1	4,509.6	9,903.1	19,543.7	843.0
1973[1]	1,071.2	177.6	324.4	839.7	2,118.2	4,653.9	10,214.3	20,436.1	874.1
1972[1,2]	1,077.3	172.5	325.4	861.4	2,160.8	4,746.7	10,227.3	20,266.2	883.2
1971[1]	1,069.6	174.4	334.9	860.6	2,145.1	4,696.5	10,027.1	20,420.4	878.4
1970[1]	1,086.7	176.6	343.5	882.9	2,202.6	4,810.1	10,098.8	18,551.7	893.4
1969	1,097.1	178.9	349.3	891.3	2,204.7	4,861.7	10,147.2	21,593.7	909.1
1968	1,112.7	175.4	346.3	912.1	2,249.5	4,970.8	10,300.3	22,371.2	924.7
1967	1,083.9	169.9	340.5	900.9	2,204.4	4,817.1	10,040.7	22,013.2	903.3
1966	1,096.0	169.8	339.9	917.6	2,235.0	4,879.7	10,255.8	22,566.0	917.7
1965	1,087.6	167.7	336.5	912.4	2,213.5	4,826.7	10,238.2	22,733.6	911.1
1964	1,080.7	169.1	336.3	908.2	2,202.4	4,796.0	10,084.2	22,191.5	905.2
1963[3]	1,103.3	165.7	334.6	923.3	2,227.2	4,903.7	10,384.8	23,409.5	922.2
1962[3]	1,084.6	161.3	331.6	914.4	2,181.3	4,786.0	10,120.2	22,723.1	904.5
1961	1,070.8	158.5	325.9	901.4	2,166.2	4,712.5	10,004.0	21,580.1	892.2
1960	1,098.5	163.2	332.6	932.2	2,225.2	4,848.4	10,299.6	21,750.0	917.7
All other, male									
1977[1]	967.1	396.8	671.7	1,354.5	2,772.7	4,682.2	8,783.8	11,286.1	1,045.9
1976[1]	983.5	410.5	692.4	1,402.5	2,812.3	4,852.8	8,652.1	11,519.1	1,072.1
1975[1]	999.1	454.6	736.1	1,418.9	2,806.6	4,970.8	8,604.9	11,693.8	1,097.5
1974[1]	1,036.3	467.8	768.7	1,499.7	2,942.3	5,285.0	8,555.6	12,762.5	1,149.1
1973[1]	1,084.6	498.6	815.7	1,591.5	3,069.5	5,456.7	8,965.7	13,605.7	1,206.7
1972[1,2]	1,101.3	514.2	868.4	1,639.2	3,073.2	5,490.1	8,939.7	13,325.5	1,227.2
1971[1]	1,094.1	516.1	852.8	1,572.0	3,013.1	5,377.6	8,746.0	13,351.0	1,210.7
1970[1]	1,115.9	504.1	873.5	1,646.1	3,046.5	5,474.4	8,981.0	11,405.2	1,231.4
1969	1,145.5	511.9	914.5	1,680.7	3,128.8	5,630.8	9,123.4	14,102.3	1,273.1
1968	1,169.1	512.6	899.5	1,704.9	3,265.0	5,809.6	9,194.6	15,512.2	1,294.4
1967	1,101.1	467.6	833.6	1,606.9	3,013.5	5,448.2	8,624.5	14,653.8	1,212.4
1966	1,136.5	447.4	830.8	1,631.2	3,127.0	5,658.8	8,947.5	16,233.3	1,243.3
1965	1,121.3	425.4	802.3	1,595.0	3,110.0	5,488.1	8,733.5	15,761.8	1,217.2
1964	1,120.5	417.4	798.6	1,575.2	3,142.6	5,369.4	8,473.8	15,528.1	1,206.5
1963[3]	1,156.5	395.6	756.7	1,567.5	3,191.0	5,828.6	8,967.3	18,386.2	1,239.7
1962[3]	1,120.5	382.6	735.1	1,529.5	3,061.4	5,556.7	8,448.4	17,213.8	1,191.4
1961	1,096.1	381.6	722.7	1,470.1	3,000.1	5,433.2	8,015.1	16,113.3	1,158.7
1960	1,152.0	386.4	729.2	1,551.0	3,151.5	5,664.0	8,662.6	15,238.7	1,211.0

See footnotes at end of table.

Table 1. Death rates for All causes, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For method of age adjustment, see appendix II]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
White, female									
1977[1]	783.3	69.3	151.9	397.4	920.4	2,070.4	5,805.1	14,039.7	427.8
1976[1]	793.6	70.3	155.4	405.9	942.0	2,114.1	5,984.6	14,823.3	439.6
1975[1]	783.8	73.3	164.6	414.8	944.6	2,152.8	6,034.7	14,494.1	445.3
1974[1]	807.6	75.5	172.1	426.4	973.6	2,252.5	6,354.6	15,845.4	466.4
1973[1]	823.0	79.3	181.8	439.9	1,000.7	2,324.7	6,582.2	16,885.8	483.7
1972[1,2]	821.3	81.0	187.1	444.3	1,001.6	2,416.8	6,613.6	16,857.3	490.8
1971[1]	809.7	83.0	189.8	450.6	1,003.3	2,386.6	6,558.8	16,829.2	490.9
1970[1]	812.6	84.1	193.3	462.9	1,014.9	2,470.7	6,698.7	15,980.2	501.7
1969	816.0	84.0	196.5	466.5	1,002.9	2,503.4	6,797.6	18,178.5	510.8
1968	824.0	82.8	197.6	470.5	1,028.5	2,562.8	6,996.4	18,875.5	522.9
1967	797.5	81.7	193.3	460.3	999.9	2,533.3	6,854.6	18,496.0	513.3
1966	809.0	86.4	193.2	466.1	1,010.2	2,599.7	7,103.2	19,293.5	527.1
1965	800.8	85.9	194.4	467.9	1,016.5	2,600.0	7,133.6	19,353.7	527.6
1964	797.0	86.9	193.7	464.8	1,024.0	2,610.9	7,160.7	19,313.0	531.2
1963[3]	810.2	85.6	193.5	461.4	1,045.1	2,679.3	7,426.5	20,184.2	543.3
1962[3]	797.8	86.7	190.7	459.0	1,034.2	2,672.9	7,396.2	19,749.3	539.9
1961	784.2	84.6	185.6	453.4	1,029.9	2,681.5	7,348.8	19,096.9	535.8
1960	800.9	85.0	191.1	458.8	1,078.9	2,779.3	7,696.6	19,477.7	555.0
All other, female									
1977[1]	672.5	146.9	326.4	752.5	1,572.9	2,933.0	6,370.3	8,673.5	621.3
1976[1]	680.0	157.8	340.8	772.3	1,590.1	3,009.4	6,217.6	9,175.2	635.1
1975[1]	682.5	160.8	359.9	780.8	1,636.2	3,172.0	5,978.5	9,177.3	648.3
1974[1]	716.3	184.0	402.8	852.2	1,716.3	3,442.8	6,015.4	10,342.3	693.1
1973[1]	755.4	194.1	439.6	926.0	1,821.7	3,662.0	6,291.8	11,115.9	738.9
1972[1,2]	755.5	208.3	455.1	929.4	1,830.2	3,678.9	6,178.0	10,939.0	745.0
1971[1]	763.3	217.8	480.1	953.8	1,829.4	3,630.0	6,195.6	11,271.1	754.9
1970[1]	775.3	215.7	490.5	979.4	1,886.9	3,675.6	6,392.6	10,288.9	770.8
1969	796.4	227.7	510.2	1,004.3	1,970.9	3,756.5	6,444.1	12,067.7	800.5
1968	824.8	236.7	532.3	1,041.3	2,068.5	3,892.9	6,787.7	12,967.2	831.3
1967	787.4	233.6	504.9	1,017.6	2,000.2	3,632.7	6,239.8	12,050.9	796.7
1966	824.0	236.3	526.3	1,050.9	2,084.5	3,766.4	6,730.8	12,977.4	831.9
1965	822.6	238.7	533.5	1,048.8	2,179.6	3,631.4	6,493.0	12,998.0	831.4
1964	833.4	243.2	530.0	1,098.1	2,275.0	3,592.5	6,433.7	13,422.2	845.2
1963[3]	867.8	250.1	547.2	1,106.8	2,389.3	3,866.8	6,779.7	14,361.9	881.7
1962[3]	851.9	241.5	538.4	1,076.7	2,352.1	3,831.4	6,616.8	14,155.0	866.9
1961	837.4	244.4	525.0	1,080.0	2,332.1	3,738.5	6,433.3	13,532.5	853.2
1960	872.6	260.0	547.3	1,144.9	2,409.7	3,981.4	6,708.4	12,871.2	893.3

[1] Excludes deaths of nonresidents of the United States.

[2] Based on a 50-percent sample of deaths.

[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 2. Death rates for Malignant neoplasm of trachea, bronchus, and lung, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category number 162 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 162, 163 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
Both sexes	Rate per 100,000 population								
1977[1]	41.8	0.8	10.2	52.4	130.4	209.5	225.5	144.2	32.7
1976[1]	40.3	0.8	10.1	50.9	128.6	202.1	214.5	139.8	31.8
1975[1]	38.5	0.8	10.4	49.7	124.8	196.3	200.5	131.6	30.8
1974[1]	37.3	0.8	10.5	48.8	123.5	188.1	195.7	129.0	30.1
1973[1]	35.7	0.8	10.5	46.9	118.8	183.5	184.6	123.3	29.1
1972[1,2]	34.9	0.8	11.0	46.7	115.8	180.5	180.0	115.3	28.7
1971[1]	33.3	1.0	10.7	44.4	109.3	173.5	174.0	119.7	27.4
1970[1]	32.1	0.9	11.0	43.4	109.1	164.5	163.2	101.7	26.6
1969	30.7	0.9	10.7	41.5	104.5	160.9	150.3	106.4	25.6
1968	29.8	0.9	10.3	40.6	100.9	156.4	148.6	104.3	24.9
1967	27.6	0.9	9.4	38.3	93.8	145.1	138.8	90.5	23.2
1966	26.3	1.0	9.1	36.7	91.5	138.9	129.3	88.8	22.3
1965	25.1	0.9	8.8	35.8	87.6	134.0	118.3	84.7	21.4
1964	24.0	1.0	8.4	33.9	86.3	126.4	114.5	74.8	20.6
1963	23.1	1.1	8.0	32.8	82.5	123.9	107.9	80.7	19.9
1962	22.3	1.0	7.5	32.0	81.3	118.2	102.6	72.9	19.2
1961	21.3	1.1	7.2	30.2	78.0	113.9	96.7	74.0	18.4
1960	20.3	1.0	6.8	29.6	75.3	108.1	91.5	65.6	17.7
White, male									
1977[1]	66.1	1.0	11.9	70.3	197.7	381.6	475.2	314.8	53.6
1976[1]	64.3	0.9	12.8	69.3	196.3	372.8	452.2	298.9	52.7
1975[1]	62.3	1.0	12.6	69.4	195.0	366.8	426.7	274.3	51.7
1974[1]	60.9	0.9	13.5	69.0	196.9	354.2	415.1	268.5	51.1
1973[1]	59.0	0.9	13.8	65.7	192.7	353.2	388.0	258.0	49.8
1972[1,2]	58.0	0.8	14.1	66.5	191.3	347.5	380.4	235.2	49.4
1971[1]	56.0	1.2	14.0	63.5	183.6	339.2	363.4	245.2	47.8
1970[1]	54.6	1.2	14.7	63.3	180.8	325.0	336.7	199.6	46.8
1969	52.6	1.1	14.8	61.4	180.2	315.9	309.7	208.0	45.2
1968	51.5	1.3	13.8	61.3	177.3	310.9	298.2	195.5	44.4
1967	48.3	1.2	12.9	58.4	166.7	289.6	283.8	173.6	41.7
1966	46.2	1.4	12.1	57.1	164.3	276.3	260.1	157.9	40.2
1965	44.4	1.2	12.3	56.9	159.4	265.5	237.3	157.0	38.8
1964	42.8	1.3	11.7	54.8	157.5	252.9	225.1	137.2	37.5
1963[3]	40.7	1.4	10.9	52.1	149.7	242.1	207.0	143.8	35.6
1962[3]	39.5	1.3	10.9	52.7	148.4	229.3	193.2	127.5	34.7
1961	38.1	1.6	10.3	50.0	143.2	221.3	180.6	131.6	33.3
1960	36.4	1.3	9.7	49.2	139.2	207.5	170.4	109.4	31.9
White, female									
1977[1]	20.8	0.6	6.9	29.7	82.7	77.9	79.9	72.3	14.9
1976[1]	19.6	0.6	6.4	28.2	80.2	72.8	75.7	71.0	14.2
1975[1]	17.9	0.5	6.8	26.6	56.3	64.9	67.4	67.1	13.2
1974[1]	16.6	0.6	6.3	24.6	52.3	61.0	64.9	65.2	12.3
1973[1]	15.2	0.7	6.1	23.5	47.3	55.2	61.2	59.4	11.4
1972[1,2]	14.6	0.6	6.7	24.3	44.3	53.6	56.7	58.6	11.2
1971[1]	13.4	0.6	5.9	22.3	39.6	48.4	55.7	60.4	10.2
1970[1]	12.3	0.5	5.8	20.9	37.2	42.9	52.6	50.6	9.5
1969	11.4	0.6	5.6	18.6	33.8	42.2	47.7	52.7	8.8
1968	10.7	0.5	5.5	17.6	29.7	39.3	50.2	55.5	8.3
1967	9.3	0.5	4.6	16.2	26.0	34.4	42.4	44.3	7.3
1966	8.6	0.5	4.6	14.0	24.0	31.7	41.8	51.5	6.7
1965	8.0	0.5	4.2	13.8	21.7	30.8	37.5	44.6	6.3
1964	7.4	0.6	4.1	11.9	20.0	28.1	38.9	39.0	5.8
1963[3]	7.0	0.6	3.9	11.7	19.0	27.1	35.7	44.1	5.6
1962[3]	6.6	0.5	3.4	10.4	18.1	26.2	36.3	41.8	5.3
1961	6.4	0.5	3.4	9.5	17.0	25.9	37.2	40.7	5.1
1960	5.9	0.5	3.2	9.0	15.1	24.8	32.7	39.1	4.7

See footnotes at end of table.

Table 2. Death rates for Malignant neoplasm of trachea, bronchus, and lung, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 162 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 162, 163 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	57.9	1.7	23.0	122.4	286.3	389.8	391.5	229.2	67.2
1976[1]	54.6	1.2	21.3	119.7	278.8	362.1	351.7	213.2	63.9
1975[1]	53.1	1.3	24.8	114.6	271.5	355.6	328.1	207.8	62.5
1974[1]	52.6	1.5	24.5	118.0	263.8	356.1	324.1	203.5	62.2
1973[1]	50.5	1.7	23.4	121.2	256.9	322.4	311.3	196.2	60.0
1972[1,2]	48.5	2.1	25.4	107.3	247.9	325.6	293.8	164.7	57.7
1971[1]	45.3	1.7	25.8	104.2	225.7	289.8	288.1	155.1	53.7
1970[1]	44.4	2.1	26.7	105.6	216.9	281.5	261.6	144.3	52.5
1969	43.7	2.0	25.6	107.5	212.4	282.6	226.6	179.5	51.7
1968	41.3	2.1	25.8	102.1	200.5	252.7	230.1	175.6	48.8
1967	38.5	2.4	25.3	93.1	188.5	236.4	208.2	174.4	45.6
1966	37.4	3.3	26.6	91.2	178.8	236.2	182.1	136.1	44.4
1965	33.2	1.5	22.5	77.2	158.7	223.4	163.6	138.2	39.3
1964	31.5	2.2	22.7	77.1	161.1	184.8	138.4	118.8	37.3
1963[3]	31.9	2.7	22.1	76.9	151.4	200.0	163.6	127.6	37.6
1962[3]	28.8	2.8	18.2	66.7	140.5	182.7	141.0	103.4	33.7
1961	27.8	2.2	17.6	64.7	142.1	171.2	122.0	100.0	32.5
1960	27.5	2.3	17.7	64.2	140.2	167.2	125.4	89.3	32.2
All other, female									
1977[1]	13.8	0.8	9.8	34.1	60.4	66.0	63.2	48.5	14.8
1976[1]	12.5	0.8	8.0	32.0	51.1	60.9	65.4	52.9	13.3
1975[1]	11.7	0.7	8.1	28.3	48.5	59.9	59.0	51.8	12.5
1974[1]	11.3	0.6	7.8	29.7	50.7	52.0	55.5	41.2	12.3
1973[1]	10.8	0.6	8.1	29.3	43.5	52.5	51.4	47.7	11.8
1972[1,2]	9.6	0.4	8.5	25.4	36.6	46.5	52.5	43.9	10.5
1971[1]	9.8	0.6	9.0	26.5	36.5	50.5	45.6	38.2	10.7
1970[1]	8.8	0.4	8.6	21.9	32.6	44.7	50.1	43.2	9.8
1969	8.2	1.2	6.2	20.1	33.3	41.6	46.2	33.8	9.0
1968	7.6	0.6	7.3	17.5	30.8	36.6	43.5	52.5	8.3
1967	6.5	0.8	6.2	16.0	25.3	32.4	35.1	36.8	7.2
1966	6.3	0.9	6.3	16.6	23.9	32.4	28.5	39.6	7.1
1965	5.7	0.7	5.9	14.5	23.8	26.9	25.8	32.7	6.4
1964	5.3	0.5	5.2	12.9	24.0	23.4	29.3	35.6	6.0
1963[3]	5.3	1.1	6.1	11.7	21.4	27.6	27.1	33.3	6.0
1962[3]	4.7	0.6	4.7	11.9	22.1	19.1	24.5	20.0	5.4
1961	4.4	0.8	3.8	10.8	20.3	23.2	16.1	22.5	5.0
1960	4.3	0.5	3.0	11.1	17.6	20.1	34.0	34.8	4.9

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 3. Death rates for Malignant neoplasm of larynx, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category number 161 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 161 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	1.6	0.0	0.2	2.0	5.3	7.3	8.3	7.0	1.2
1976[1]	1.6	0.0	0.3	1.9	5.4	7.5	7.8	7.8	1.2
1975[1]	1.5	0.0	0.3	1.9	5.3	7.2	8.1	6.0	1.2
1974[1]	1.5	0.0	0.3	2.1	5.4	7.6	7.4	6.7	1.2
1973[1]	1.5	0.0	0.4	1.8	5.2	7.0	7.4	6.6	1.2
1972[1,2]	1.5	0.0	0.3	1.8	5.1	7.4	8.0	7.4	1.2
1971[1]	1.4	0.0	0.3	1.9	5.3	7.1	7.1	6.4	1.2
1970[1]	1.5	0.0	0.3	2.0	5.3	7.3	7.7	6.1	1.2
1969	1.5	0.0	0.5	1.9	5.5	7.1	7.6	7.4	1.2
1968	1.4	0.0	0.3	1.9	5.1	7.2	7.1	7.5	1.2
1967	1.4	0.0	0.3	2.0	5.0	6.9	7.9	6.7	1.2
1966	1.3	0.0	0.3	1.9	4.9	6.6	7.1	6.7	1.1
1965	1.4	0.0	0.3	1.9	4.7	7.0	7.8	7.2	1.1
1964	1.3	0.0	0.3	1.7	4.8	6.5	7.4	8.0	1.1
1963	1.4	0.0	0.3	1.9	4.9	6.8	7.7	6.9	1.1
1962	1.3	0.0	0.3	1.8	4.7	6.5	7.7	6.8	1.1
1961	1.3	0.0	0.3	1.8	4.9	6.9	7.1	8.1	1.1
1960	1.4	0.0	0.3	1.9	4.8	7.0	8.1	8.1	1.2
White, male									
1977[1]	2.7	-	0.2	2.9	8.5	14.4	19.7	19.4	2.1
1976[1]	2.6	0.0	0.3	2.5	8.7	14.7	18.3	22.3	2.1
1975[1]	2.6	0.0	0.3	2.7	8.7	14.1	19.4	16.8	2.1
1974[1]	2.7	0.0	0.3	3.0	9.2	15.3	17.6	18.5	2.2
1973[1]	2.6	0.0	0.5	2.8	8.9	14.1	17.4	18.1	2.1
1972[1,2]	2.6	0.0	0.4	2.5	8.9	15.3	18.8	18.0	2.2
1971[1]	2.6	0.0	0.4	2.7	9.4	14.4	16.9	15.9	2.2
1970[1]	2.7	0.0	0.4	3.1	9.8	15.2	17.7	15.2	2.3
1969	2.7	0.0	0.6	2.8	10.1	14.8	17.4	19.5	2.3
1968	2.6	0.0	0.4	2.9	9.7	14.4	16.0	18.0	2.2
1967	2.6	0.0	0.5	3.2	8.8	14.1	18.1	17.1	2.2
1966	2.5	0.0	0.5	2.9	9.1	13.8	15.8	16.6	2.1
1965	2.5	0.0	0.3	3.0	8.6	14.1	17.3	17.1	2.1
1964	2.4	0.0	0.4	2.8	8.9	13.4	15.9	18.3	2.1
1963[3]	2.5	0.0	0.4	3.1	8.9	14.0	16.4	15.8	2.1
1962[3]	2.4	0.0	0.5	2.9	8.7	12.8	16.6	15.0	2.1
1961	2.5	0.0	0.4	2.8	9.1	14.0	15.9	16.4	2.1
1960	2.5	0.0	0.4	3.1	8.7	14.4	17.2	16.9	2.2
White, female									
1977[1]	0.5	0.0	0.0	0.6	1.7	1.7	1.6	1.5	0.3
1976[1]	0.5	-	0.1	0.6	1.9	1.7	1.6	1.8	0.4
1975[1]	0.4	-	0.1	0.7	1.7	1.6	1.4	1.2	0.3
1974[1]	0.4	0.0	0.1	0.6	1.3	1.6	1.2	1.2	0.3
1973[1]	0.4	-	0.2	0.4	1.4	1.4	1.1	1.1	0.3
1972[1,2]	0.4	0.0	0.1	0.6	1.4	1.4	1.4	2.1	0.3
1971[1]	0.4	0.0	0.1	0.7	1.2	1.3	1.2	1.8	0.3
1970[1]	0.3	0.0	0.0	0.6	1.1	1.2	1.3	1.5	0.2
1969	0.3	-	0.1	0.6	1.1	1.1	1.0	1.0	0.2
1968	0.3	0.0	0.1	0.5	0.8	1.2	1.2	2.2	0.2
1967	0.3	0.0	0.0	0.7	1.1	1.0	1.0	1.3	0.2
1966	0.3	-	0.0	0.6	0.8	0.8	1.1	1.8	0.2
1965	0.3	0.0	0.1	0.6	0.9	1.2	1.4	2.0	0.2
1964	0.3	0.0	0.1	0.5	0.9	0.8	1.3	2.5	0.2
1963[3]	0.3	-	0.1	0.5	0.8	0.9	1.5	1.4	0.2
1962[3]	0.3	0.0	0.1	0.5	0.7	1.1	1.3	2.2	0.2
1961	0.3	0.0	0.1	0.5	0.8	0.9	0.7	3.3	0.2
1960	0.2	-	0.1	0.4	0.9	0.7	1.4	1.9	0.2

See footnotes at end of table.

Table 3. Death rates for Malignant neoplasm of larynx, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 161 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 161 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	3.0	0.3	1.3	7.6	16.6	15.0	17.1	19.4	3.5
1976[1]	2.9	0.1	2.0	8.1	13.6	17.7	16.7	8.8	3.5
1975[1]	2.9	-	1.9	7.0	14.2	18.5	14.7	7.8	3.4
1974[1]	3.0	-	1.4	8.6	16.7	16.8	13.9	10.5	3.6
1973[1]	2.9	0.1	1.3	7.3	15.5	16.5	16.0	13.2	3.4
1972[1,2]	2.5	0.3	1.4	6.4	12.4	13.8	16.3	19.6	3.0
1971[1]	2.7	-	1.3	7.7	13.3	16.7	9.9	10.2	3.2
1970[1]	2.5	0.1	1.8	6.1	11.6	14.8	14.5	9.0	2.9
1969	2.4	0.1	1.6	6.7	11.2	12.8	16.5	15.9	2.9
1968	2.6	-	1.8	6.9	11.8	18.0	12.9	9.8	3.1
1967	2.4	0.1	1.6	5.8	12.6	14.8	12.5	10.3	2.9
1966	2.2	-	1.2	6.0	12.0	12.3	13.4	2.8	2.7
1965	2.3	-	1.4	5.9	10.8	14.6	11.4	8.8	2.7
1964	2.1	0.1	0.9	4.7	11.5	13.2	12.8	6.3	2.5
1963[3]	2.0	0.1	1.6	5.7	10.0	11.7	6.7	3.4	2.4
1962[3]	2.0	0.1	0.9	6.3	11.1	9.7	6.8	-	2.4
1961	2.1	0.2	1.6	5.2	10.3	11.1	10.1	13.3	2.4
1960	2.2	-	1.3	5.1	10.9	13.0	13.3	19.1	2.6
All other, female									
1977[1]	0.5	0.1	0.6	1.5	2.3	2.0	0.6	-	0.6
1976[1]	0.5	-	0.1	1.7	2.4	3.0	0.3	0.8	0.6
1975[1]	0.5	-	0.3	1.9	2.8	1.4	2.2	0.9	0.6
1974[1]	0.4	-	0.6	1.5	1.9	1.3	1.3	1.0	0.5
1973[1]	0.4	-	0.5	1.2	1.5	1.5	0.3	-	0.4
1972[1,2]	0.5	-	0.1	2.0	2.3	1.8	-	-	0.5
1971[1]	0.4	-	0.5	1.2	1.9	0.6	1.1	1.3	0.4
1970[1]	0.4	-	0.7	0.9	1.4	1.3	2.0	-	0.4
1969	0.5	-	0.9	1.1	2.2	2.3	1.2	1.5	0.6
1968	0.4	-	0.3	1.8	1.0	1.8	0.4	1.6	0.4
1967	0.4	0.1	0.2	1.2	2.2	1.0	2.2	-	0.4
1966	0.3	0.1	0.2	1.1	1.3	1.2	1.4	1.9	0.4
1965	0.3	0.1	0.1	1.2	1.1	1.1	0.9	-	0.3
1964	0.3	-	0.4	0.8	1.3	0.7	1.5	2.2	0.3
1963[3]	0.4	-	0.5	0.9	1.7	1.0	3.6	-	0.4
1962[3]	0.2	-	0.1	0.6	1.0	0.4	1.1	2.5	0.2
1961	0.2	0.1	0.1	1.0	1.0	1.0	0.6	-	0.3
1960	0.3	0.1	0.3	1.1	1.3	0.4	0.6	7.4	0.3

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 4. Death rates for Malignant neoplasm of lip, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category number 140 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 140 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
Both sexes	Rate per 100,000 population								
1977[1]	0.1	0.0	0.0	0.0	0.1	0.3	0.8	1.4	0.0
1976[1]	0.1	0.0	0.0	0.0	0.1	0.3	0.5	1.2	0.0
1975[1]	0.1	-	0.0	0.1	0.1	0.3	0.8	1.2	0.1
1974[1]	0.1	0.0	0.0	0.0	0.2	0.3	0.8	1.3	0.0
1973[1]	0.1	0.0	0.0	0.1	0.2	0.4	0.8	1.2	0.1
1972[1,2]	0.1	0.0	0.0	0.0	0.1	0.2	0.8	1.7	0.0
1971[1]	0.1	0.0	0.0	0.1	0.1	0.5	1.0	2.9	0.1
1970[1]	0.1	-	0.0	0.1	0.2	0.3	0.9	2.4	0.1
1969	0.1	0.0	0.0	0.1	0.1	0.5	1.1	2.8	0.1
1968	0.1	0.0	0.0	0.1	0.1	0.5	0.8	2.7	0.1
1967	0.1	0.0	0.0	0.1	0.1	0.3	0.5	2.4	0.0
1966	0.1	0.0	0.0	0.1	0.2	0.3	0.9	2.2	0.1
1965	0.1	0.0	0.0	0.1	0.2	0.4	1.0	2.1	0.1
1964	0.1	0.0	0.0	0.1	0.2	0.3	1.1	3.7	0.1
1963	0.1	0.0	0.0	0.1	0.1	0.5	1.1	2.3	0.1
1962	0.1	-	0.0	0.1	0.2	0.5	1.6	3.8	0.1
1961	0.1	0.0	0.0	0.0	0.2	0.6	1.4	3.5	0.1
1960	0.1	0.0	0.0	0.1	0.3	0.5	1.5	3.6	0.1
White, male									
1977[1]	0.1	-	0.0	0.1	0.3	0.6	1.9	3.9	0.1
1976[1]	0.1	0.0	0.0	0.0	0.3	0.6	1.2	3.2	0.1
1975[1]	0.2	-	0.1	0.1	0.2	0.8	1.9	3.3	0.1
1974[1]	0.2	0.0	0.0	0.1	0.3	0.7	2.0	4.0	0.1
1973[1]	0.2	0.0	0.0	0.1	0.4	0.9	2.0	3.4	0.1
1972[1,2]	0.1	0.0	0.1	0.1	0.2	0.5	1.9	4.2	0.1
1971[1]	0.2	-	0.0	0.2	0.3	1.1	2.1	6.2	0.2
1970[1]	0.2	-	0.1	0.1	0.4	0.8	2.3	6.4	0.2
1969	0.2	0.0	0.1	0.1	0.3	1.0	2.7	7.5	0.2
1968	0.2	0.0	0.0	0.2	0.2	1.1	2.0	6.5	0.1
1967	0.1	0.0	0.0	0.1	0.2	0.7	1.1	5.7	0.1
1966	0.2	0.0	0.0	0.1	0.3	0.6	1.8	5.1	0.1
1965	0.2	0.0	0.0	0.1	0.4	0.8	2.2	4.7	0.1
1964	0.2	0.0	0.0	0.1	0.3	0.6	2.2	8.5	0.1
1963[3]	0.2	0.0	0.0	0.1	0.3	1.1	2.3	4.8	0.1
1962[3]	0.2	-	0.1	0.1	0.4	1.0	3.3	9.3	0.2
1961	0.2	0.0	0.0	0.1	0.3	1.3	3.0	9.4	0.2
1960	0.2	0.0	0.0	0.1	0.5	1.0	3.4	8.5	0.2
White, female									
1977[1]	0.0	-	-	-	0.0	0.1	0.2	0.5	0.0
1976[1]	0.0	-	-	-	0.0	0.1	0.2	0.2	0.0
1975[1]	0.0	-	-	0.0	0.0	0.0	0.2	0.3	0.0
1974[1]	0.0	-	-	-	0.1	0.0	0.2	0.1	0.0
1973[1]	0.0	-	-	-	0.0	0.1	0.2	0.2	0.0
1972[1,2]	0.0	-	-	0.0	0.1	0.1	0.2	0.6	0.0
1971[1]	0.0	0.0	-	0.0	0.0	0.1	0.3	1.3	0.0
1970[1]	0.0	-	-	0.0	0.0	0.1	0.1	0.6	0.0
1969	0.0	-	-	-	0.0	0.1	0.2	0.8	0.0
1968	0.0	-	-	0.0	0.0	0.1	0.1	0.9	0.0
1967	0.0	-	-	0.0	0.0	0.0	0.2	0.7	0.0
1966	0.0	-	-	-	-	0.0	0.3	0.8	0.0
1965	0.0	-	-	-	0.0	0.1	0.3	0.8	0.0
1964	0.0	-	0.0	-	0.0	0.1	0.4	1.2	0.0
1963[3]	0.0	-	-	-	0.0	0.1	0.3	1.1	0.0
1962[3]	0.0	-	-	0.0	-	0.1	0.4	0.5	0.0
1961	0.0	-	0.0	-	0.0	0.1	0.2	0.4	0.0
1960	0.0	-	0.0	0.0	0.0	0.1	0.2	0.9	0.0

See footnotes at end of table.

Table 4. Death rates for Malignant neoplasm of lip, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 140 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 140 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	0.0	-	-	0.1	0.1	0.3	-	1.4	0.0
1976[1]	0.0	-	-	-	-	-	-	1.5	0.0
1975[1]	0.0	-	-	0.1	-	0.2	0.4	-	0.0
1974[1]	0.0	-	-	-	0.3	-	-	-	0.0
1973[1]	0.0	-	-	0.1	0.1	0.4	-	-	0.0
1972[1,2]	-	-	-	-	-	-	-	-	-
1971[1]	0.0	-	-	-	-	0.2	0.5	4.1	0.0
1970[1]	0.0	-	-	-	-	-	1.0	-	0.0
1969	0.0	-	-	-	-	0.2	0.5	-	0.0
1968	0.0	-	-	-	0.1	-	-	2.4	0.0
1967	0.0	-	-	0.1	0.1	0.2	-	2.6	0.0
1966	0.0	-	-	-	-	-	0.6	2.8	0.0
1965	0.0	-	-	-	-	-	0.6	-	0.0
1964	0.0	-	-	0.1	0.1	0.4	-	3.1	0.0
1963[3]	0.0	-	-	-	0.1	0.2	0.6	-	0.0
1962[3]	0.0	-	-	-	0.1	0.5	1.2	-	0.1
1961	0.0	-	-	-	0.3	-	0.6	-	0.0
1960	0.1	-	-	-	0.4	0.7	0.7	-	0.1
All other, female									
1977[1]	0.0	-	-	-	-	-	0.3	-	0.0
1976[1]	0.0	-	-	-	0.1	-	-	0.8	0.0
1975[1]	0.0	-	-	0.1	-	-	-	-	0.0
1974[1]	0.0	-	-	-	0.1	0.1	0.3	-	0.0
1973[1]	0.0	0.1	-	-	0.1	0.1	-	1.1	0.0
1972[1,2]	0.0	-	-	-	0.2	-	0.7	-	0.0
1971[1]	0.0	-	-	0.1	-	-	1.1	-	0.0
1970[1]	0.0	-	-	-	-	-	-	1.3	0.0
1969	-	-	-	-	-	0.2	-	-	-
1968	0.0	-	-	-	-	-	-	-	0.0
1967	0.0	-	-	-	0.1	0.2	0.9	-	0.0
1966	0.0	-	-	0.1	0.1	0.2	-	-	0.0
1965	0.0	-	-	0.1	-	0.2	-	2.0	0.0
1964	0.0	-	-	0.1	-	0.2	-	-	0.0
1963[3]	0.1	-	-	0.2	-	0.4	0.5	2.4	0.1
1962[3]	0.0	-	-	-	-	-	-	2.5	0.0
1961	0.0	-	-	-	0.1	0.2	-	-	0.0
1960	0.0	-	-	-	0.1	-	0.6	-	0.0

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 5. Death rates for Chronic and unqualified bronchitis, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category numbers 490, 491 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 501, 502 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
Both sexes	Rate per 100,000 population								
1977[1]	2.0	0.1	0.2	0.9	3.6	9.6	17.8	25.9	1.4
1976[1]	2.2	0.1	0.2	1.1	4.0	10.2	19.4	30.3	1.5
1975[1]	2.2	0.1	0.3	1.0	4.5	10.8	19.9	26.7	1.6
1974[1]	2.4	0.1	0.3	1.3	4.7	12.0	22.7	29.0	1.7
1973[1]	2.6	0.1	0.4	1.3	5.2	13.1	24.7	37.6	1.9
1972[1,2]	2.8	0.2	0.5	1.7	5.6	15.1	24.0	33.7	2.1
1971[1]	2.7	0.1	0.4	1.5	5.8	14.0	24.3	33.8	2.0
1970[1]	2.9	0.1	0.4	1.8	6.3	14.4	25.7	31.8	2.1
1969	2.9	0.1	0.4	1.9	6.1	14.9	25.4	40.2	2.2
1968	3.1	0.1	0.4	1.8	7.0	16.0	27.4	43.2	2.3
1967	2.7	0.1	0.4	1.7	6.0	13.8	23.8	33.6	2.1
1966	2.6	0.1	0.4	1.8	5.9	13.9	23.1	34.0	2.1
1965	2.5	0.1	0.4	1.6	5.5	13.0	20.7	31.6	1.9
1964	2.3	0.1	0.4	1.5	5.0	12.1	19.2	32.8	1.8
1963	2.3	0.1	0.4	1.4	4.7	12.1	19.2	35.0	1.8
1962	1.9	0.1	0.3	1.2	4.1	9.6	15.6	27.9	1.5
1961	1.7	0.1	0.3	1.0	3.6	8.2	13.1	21.9	1.3
1960	1.8	0.1	0.3	1.1	3.6	8.8	13.5	25.4	1.4
White, male									
1977[1]	2.9	0.1	0.1	1.2	4.9	16.5	33.5	43.7	2.1
1976[1]	3.2	0.1	0.2	1.2	5.8	18.0	37.5	58.1	2.4
1975[1]	3.4	0.1	0.2	1.3	6.6	19.2	39.6	57.0	2.6
1974[1]	3.7	0.1	0.2	1.6	6.7	21.9	45.0	57.1	2.9
1973[1]	4.1	0.1	0.3	1.4	8.0	23.9	49.3	71.0	3.2
1972[1,2]	4.4	0.2	0.5	2.1	9.0	27.3	49.0	62.5	3.5
1971[1]	4.3	0.1	0.4	1.8	9.4	26.3	48.6	63.9	3.4
1970[1]	4.6	0.1	0.5	2.2	10.1	27.4	52.4	56.5	3.7
1969	4.7	0.1	0.6	2.5	10.1	28.9	50.0	70.6	3.8
1968	5.0	0.1	0.4	2.4	11.4	30.2	54.0	78.2	4.0
1967	4.4	0.1	0.4	2.4	10.1	26.6	47.5	60.5	3.6
1966	4.4	0.1	0.4	2.5	9.9	27.2	46.5	66.0	3.6
1965	4.1	0.1	0.5	2.2	9.6	25.4	39.3	58.4	3.3
1964	3.8	0.1	0.4	2.3	8.8	23.7	35.4	57.5	3.1
1963[3]	3.7	0.1	0.4	2.0	8.9	23.4	34.7	53.6	3.1
1962[3]	3.0	0.1	0.3	1.7	7.4	18.3	26.9	42.5	2.5
1961	2.6	0.1	0.3	1.5	6.1	15.1	23.2	33.0	2.1
1960	2.7	0.1	0.3	1.7	6.0	16.1	23.5	36.3	2.2
White, female									
1977[1]	1.5	0.1	0.2	0.8	2.6	5.3	9.7	20.4	0.9
1976[1]	1.5	0.1	0.2	0.9	2.6	5.2	10.2	21.1	0.9
1975[1]	1.5	0.0	0.2	0.9	2.9	5.4	9.7	14.7	0.9
1974[1]	1.5	0.1	0.3	1.0	3.1	5.3	10.8	18.0	1.0
1973[1]	1.7	0.1	0.3	1.0	3.0	6.3	11.1	23.9	1.0
1972[1,2]	1.6	0.1	0.4	1.1	2.8	6.9	10.2	20.7	1.0
1971[1]	1.5	0.1	0.3	1.1	3.0	5.7	10.3	20.5	1.0
1970[1]	1.6	0.1	0.3	1.5	3.1	5.8	10.1	20.8	1.1
1969	1.5	0.1	0.3	1.2	2.7	5.3	10.5	27.5	1.0
1968	1.7	0.1	0.3	1.1	3.3	6.2	11.2	27.3	1.1
1967	1.3	0.1	0.3	1.0	2.5	4.7	8.9	21.9	0.9
1966	1.3	0.1	0.3	1.1	2.6	4.4	8.6	20.0	0.9
1965	1.2	0.1	0.3	1.0	2.1	4.0	9.0	18.4	0.8
1964	1.1	0.1	0.3	0.9	1.7	3.6	8.8	20.7	0.8
1963[3]	1.1	0.1	0.3	0.8	1.3	3.4	9.0	26.0	0.8
1962[3]	0.9	0.1	0.3	0.7	1.4	2.7	7.7	19.3	0.7
1961	0.8	0.1	0.2	0.5	1.4	2.6	6.4	15.2	0.6
1960	0.9	0.0	0.2	0.6	1.3	2.9	6.7	19.6	0.7

See footnotes at end of table.

Table 5. Death rates for Chronic and unqualified bronchitis, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category numbers 490, 491 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 501, 502 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	1.3	-	0.5	1.1	3.8	7.0	15.4	19.4	1.3
1976[1]	1.5	0.1	0.5	2.5	4.9	9.3	14.5	13.2	1.6
1975[1]	1.4	0.3	0.5	1.1	5.0	9.3	13.8	17.2	1.5
1974[1]	1.8	0.1	0.9	1.7	6.0	13.1	14.8	24.6	1.9
1973[1]	2.0	0.4	1.0	2.2	6.7	8.7	23.9	34.0	2.1
1972[1,2]	2.2	-	1.1	3.5	7.9	14.2	19.1	35.3	2.5
1971[1]	2.0	0.5	1.4	2.3	6.9	10.6	21.3	26.6	2.2
1970[1]	2.3	0.3	0.8	3.1	8.9	11.7	21.2	27.1	2.5
1969	2.5	0.3	0.7	3.7	8.6	13.2	26.1	27.3	2.7
1968	2.8	0.4	1.3	4.0	10.0	15.4	24.2	39.0	3.1
1967	2.3	0.2	1.2	3.5	7.4	14.4	22.8	17.9	2.6
1966	2.1	0.4	1.3	3.0	6.6	13.2	15.1	8.3	2.3
1965	2.2	0.2	0.8	2.6	6.1	12.8	18.8	29.4	2.3
1964	1.9	0.1	1.3	2.1	6.2	10.9	16.9	18.8	2.0
1963[3]	2.2	0.2	1.0	2.3	6.4	16.0	10.9	34.5	2.3
1962[3]	2.0	0.3	0.4	2.5	4.0	11.5	16.1	27.6	2.0
1961	1.8	0.3	0.5	2.1	5.0	11.4	8.8	13.3	1.8
1960	1.8	0.2	0.3	2.4	5.8	10.9	10.0	19.1	1.8
All other, female									
1977[1]	0.5	0.1	0.2	0.6	1.1	2.8	3.7	4.6	0.5
1976[1]	0.5	0.0	0.1	0.6	2.0	2.3	3.4	3.3	0.5
1975[1]	0.5	0.3	0.3	0.4	1.1	2.1	3.2	6.4	0.5
1974[1]	0.6	0.1	0.5	0.4	1.8	3.4	5.0	2.1	0.7
1973[1]	0.7	0.1	0.5	1.3	2.0	1.9	4.5	8.0	0.7
1972[1,2]	1.0	0.2	0.5	1.1	1.7	4.3	2.8	17.1	0.9
1971[1]	0.9	0.2	0.7	1.1	1.9	3.6	4.8	13.2	0.9
1970[1]	0.8	-	0.7	0.9	2.9	2.1	4.7	6.4	0.8
1969	0.8	0.4	0.1	1.3	1.7	2.9	4.0	7.7	0.8
1968	1.0	0.3	1.0	1.3	2.4	2.6	5.9	9.8	1.0
1967	0.8	0.3	0.8	0.5	1.6	3.4	3.9	7.0	0.8
1966	0.7	0.1	0.6	1.0	1.2	2.2	3.2	3.8	0.7
1965	0.8	0.4	0.6	0.4	1.5	2.1	0.9	6.1	0.7
1964	0.9	0.2	0.9	1.0	1.8	1.6	2.9	11.1	0.8
1963[3]	0.9	0.3	0.6	0.4	0.9	2.9	4.2	19.0	0.8
1962[3]	0.9	0.2	0.5	0.6	1.4	3.0	4.3	7.5	0.8
1961	0.7	0.1	0.5	0.3	1.4	1.2	3.9	25.0	0.6
1960	0.9	0.1	0.2	0.4	0.8	2.2	4.8	17.4	0.7

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 6. Death rates for ischemic heart disease, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category numbers 401-413 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 420 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix II]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
Both sexes	Rate per 100,000 population								
1977[1]	295.1	4.2	38.4	166.3	468.5	1,116.4	2,889.5	6,420.1	185.0
1976[1]	301.0	4.4	40.3	171.6	487.2	1,155.4	2,963.9	6,715.0	191.6
1975[1]	301.7	4.5	42.7	177.9	501.5	1,195.5	2,997.7	6,840.0	196.1
1974[1]	314.5	4.9	44.2	186.6	526.3	1,270.7	3,157.4	7,315.5	207.7
1973[1]	326.0	5.1	48.3	194.9	559.5	1,333.4	3,322.9	7,692.6	218.9
1972[1,2]	328.7	5.1	50.2	199.5	569.6	1,363.1	3,371.2	7,712.0	223.9
1971[1]	327.0	6.1	52.1	202.3	574.4	1,385.8	3,356.8	7,780.4	225.1
1970[1]	328.1	6.3	52.9	206.5	585.5	1,429.2	3,406.3	7,249.4	228.1
1969	332.6	6.2	55.3	211.5	592.7	1,458.0	3,453.6	8,284.5	234.7
1968	338.4	6.4	56.7	218.0	616.9	1,502.0	3,533.2	8,483.0	241.6
1967	290.3	6.2	52.3	203.5	557.3	1,323.5	2,981.4	6,861.6	211.8
1966	293.1	6.5	51.8	208.2	572.5	1,355.9	3,046.1	6,990.6	216.6
1965	289.0	7.0	52.4	208.4	570.1	1,336.1	3,047.2	7,014.0	215.8
1964	285.4	6.9	53.3	207.8	574.1	1,343.7	3,005.4	6,863.1	215.4
1963	290.1	7.2	53.2	211.1	581.9	1,379.6	3,090.7	7,120.1	220.3
1962	284.0	7.1	51.2	208.9	576.1	1,362.2	3,035.2	6,907.6	216.9
1961	274.5	6.6	50.5	205.4	567.0	1,333.3	2,946.5	6,457.8	211.4
1960	275.6	6.8	50.4	207.7	580.9	1,356.1	2,998.0	6,368.6	214.6
White, male									
1977[1]	354.2	6.0	59.8	266.9	715.1	1,642.8	3,788.5	7,683.4	264.7
1976[1]	362.5	6.3	64.3	275.9	752.2	1,697.8	3,869.3	7,954.4	274.2
1975[1]	366.3	6.3	66.9	287.8	778.9	1,743.1	3,904.6	7,841.9	280.6
1974[1]	380.3	6.5	69.5	301.8	814.0	1,835.2	4,069.3	8,527.3	294.6
1973[1]	396.1	6.9	75.4	312.9	867.0	1,918.9	4,281.8	8,920.7	310.0
1972[1,2]	400.1	7.1	77.5	322.8	882.7	1,975.2	4,302.3	8,851.6	316.6
1971[1]	400.6	8.2	81.3	326.1	888.4	1,976.3	4,270.9	9,028.4	317.2
1970[1]	404.9	8.2	82.3	332.5	904.8	2,028.7	4,315.0	8,164.2	320.3
1969	411.9	7.9	85.8	341.2	919.7	2,069.9	4,348.8	9,443.1	329.1
1968	419.3	8.2	87.6	349.9	945.2	2,119.3	4,426.3	9,598.7	336.6
1967	378.7	8.2	86.6	342.0	892.0	1,928.1	3,841.2	8,075.2	307.6
1966	382.4	9.3	85.7	350.2	912.4	1,960.3	3,899.4	8,175.6	313.2
1965	378.4	10.0	86.8	349.1	902.1	1,931.8	3,913.6	8,141.0	311.2
1964	374.4	10.0	89.5	346.9	899.3	1,934.8	3,827.7	7,845.4	309.0
1963[3]	379.9	9.9	88.6	352.8	905.2	1,965.3	3,907.2	8,159.5	313.7
1962[3]	372.9	10.4	86.5	349.6	894.2	1,924.6	3,802.7	7,922.5	307.8
1961	365.4	9.8	87.0	347.4	886.7	1,888.6	3,711.3	7,390.4	302.1
1960	368.0	10.3	86.0	352.5	901.3	1,909.2	3,758.4	7,248.7	305.3
White, female									
1977[1]	267.5	1.4	11.1	56.5	216.9	704.8	2,403.1	6,281.9	119.0
1976[1]	272.0	1.4	11.7	58.5	226.7	730.7	2,485.3	6,596.1	123.6
1975[1]	269.2	1.4	12.8	60.7	231.1	762.2	2,523.2	6,484.7	126.3
1974[1]	280.5	1.7	13.1	61.9	243.3	813.9	2,684.3	7,143.4	134.6
1973[1]	287.3	1.9	14.6	65.8	256.4	855.0	2,814.2	7,486.0	141.6
1972[1,2]	289.4	1.7	15.2	66.5	260.5	910.5	2,872.9	7,564.6	145.9
1971[1]	285.1	2.1	15.5	69.5	269.2	909.5	2,857.1	7,553.2	146.8
1970[1]	282.5	2.2	15.1	70.0	271.6	948.9	2,894.7	7,192.3	148.5
1969	283.7	1.9	16.1	69.8	267.7	963.7	2,942.2	8,118.8	152.4
1968	286.6	2.2	16.3	72.8	283.7	998.3	3,016.1	8,311.6	157.6
1967	236.8	2.0	14.3	65.8	249.6	875.4	2,512.5	6,602.7	134.3
1966	237.3	1.9	14.4	67.4	255.5	899.3	2,566.0	6,719.5	137.4
1965	232.7	2.1	13.9	67.5	258.2	889.1	2,560.2	6,761.4	137.1
1964	228.8	2.1	13.7	67.4	264.4	896.9	2,548.1	6,651.6	137.5
1963[3]	229.1	2.4	14.8	66.3	269.5	910.5	2,591.2	6,789.9	139.7
1962[3]	223.4	2.2	13.1	66.2	266.9	907.6	2,570.1	6,570.8	138.1
1961	215.3	1.8	12.4	64.3	264.7	898.2	2,515.1	6,218.9	135.2
1960	215.1	1.9	12.7	61.9	277.6	916.3	2,566.9	6,233.7	137.8

See footnotes at end of table.

Table 6. Death rates for ischemic heart disease, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category numbers 401-413 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States,* 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 420 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	225.7	12.6	91.3	315.9	786.3	1,435.5	2,853.0	4,030.6	245.3
1976[1]	228.3	12.6	90.3	326.0	794.5	1,487.9	2,823.9	4,176.5	249.4
1975[1]	229.9	13.1	97.6	330.3	781.3	1,549.7	2,867.9	4,245.3	254.0
1974[1]	244.0	14.6	95.6	353.4	848.1	1,713.6	2,928.2	4,831.6	272.6
1973[1]	255.8	14.7	103.6	375.6	902.0	1,784.2	3,095.3	5,090.6	287.8
1972[1,2]	257.8	14.8	111.9	388.0	903.0	1,783.9	3,153.1	5,023.5	291.5
1971[1]	256.6	18.9	116.9	372.7	893.9	1,782.9	3,120.8	5,110.2	290.0
1970[1]	261.1	19.1	124.3	387.7	902.3	1,833.2	3,149.9	4,419.8	294.4
1969	269.5	23.3	131.1	413.3	929.0	1,864.1	3,245.7	5,259.1	306.7
1968	278.8	20.7	134.9	419.4	998.1	1,920.2	3,179.6	5,958.5	316.6
1967	208.3	19.2	103.3	317.4	747.1	1,425.3	2,407.1	4,197.4	237.6
1966	215.2	18.2	102.9	318.5	778.7	1,516.0	2,464.2	4,619.4	246.5
1965	209.6	20.9	106.3	322.6	755.9	1,439.3	2,366.5	4,717.6	240.9
1964	205.6	18.9	105.1	319.3	781.6	1,401.9	2,220.3	4,425.0	236.9
1963[3]	209.1	18.8	95.0	316.6	780.6	1,472.7	2,357.6	4,969.0	240.8
1962[3]	202.6	17.3	94.1	312.4	738.8	1,406.7	2,275.2	4,596.6	232.5
1961	191.1	17.1	87.3	285.7	708.6	1,369.8	2,065.4	4,203.3	219.6
1960	190.7	15.7	87.8	297.0	723.7	1,340.2	2,114.1	3,574.5	219.5
All other, female									
1977[1]	177.0	4.1	36.6	144.7	423.0	945.8	2,306.5	3,496.2	152.3
1976[1]	176.9	4.9	33.1	148.2	421.8	983.0	2,277.8	3,590.9	153.8
1975[1]	177.7	5.1	39.3	150.6	453.1	1,053.2	2,167.6	3,662.7	159.1
1974[1]	188.9	6.5	44.4	171.7	478.6	1,160.5	2,244.8	4,251.5	172.9
1973[1]	200.7	6.1	51.3	185.8	516.1	1,267.0	2,379.1	4,633.0	187.0
1972[1,2]	197.7	6.9	55.7	187.0	543.6	1,237.0	2,376.8	4,461.0	188.0
1971[1]	197.5	8.5	56.3	193.3	512.7	1,277.5	2,398.1	4,582.9	189.5
1970[1]	200.4	9.6	58.9	203.0	557.1	1,270.3	2,462.5	4,227.9	194.8
1969	204.2	9.8	62.5	208.1	582.0	1,310.4	2,459.1	4,930.8	201.4
1968	213.4	10.5	68.6	222.9	623.6	1,382.1	2,607.9	5,096.7	213.0
1967	144.3	10.2	46.9	160.1	425.6	925.1	1,727.3	3,522.8	145.8
1966	148.7	9.0	45.7	160.4	454.1	953.2	1,868.3	3,687.9	152.0
1965	144.9	8.3	48.0	163.9	480.0	886.9	1,805.2	3,873.5	150.4
1964	143.4	9.5	46.8	168.9	489.0	902.0	1,719.0	3,704.4	151.2
1963[3]	143.6	9.9	47.8	166.6	502.4	916.7	1,710.9	3,759.5	152.9
1962[3]	139.1	8.5	45.8	162.3	496.7	901.4	1,658.2	3,727.5	149.7
1961	133.2	8.1	42.5	160.4	480.1	859.4	1,633.3	3,627.5	144.7
1960	131.7	9.3	46.7	168.0	482.3	897.0	1,563.4	3,076.3	145.8

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 7. Death rates for Cirrhosis of liver, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category number 571 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 581 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix II]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	14.3	3.8	15.3	33.8	45.4	42.6	30.2	16.9	13.1
1976[1]	14.7	3.7	16.9	35.0	47.6	42.6	29.3	18.0	13.6
1975[1]	14.8	3.8	16.7	36.0	49.0	42.8	29.0	16.9	13.8
1974[1]	15.8	4.2	18.6	38.7	50.9	45.9	29.5	18.5	14.8
1973[1]	15.9	4.2	19.4	39.1	52.5	44.6	28.8	19.9	15.0
1972[1,2]	15.6	4.3	20.3	38.9	50.3	43.1	29.5	20.3	14.9
1971[1]	15.4	4.2	19.3	38.5	49.8	42.2	30.1	21.6	14.7
1970[1]	15.5	4.4	19.6	38.3	49.3	42.2	30.9	20.3	14.7
1969	14.8	4.3	19.0	36.7	47.2	39.8	29.5	21.5	14.1
1968	14.6	4.2	18.1	36.8	46.1	40.3	29.6	22.7	13.9
1967	14.1	4.0	17.1	35.1	45.2	39.7	28.1	22.6	13.4
1966	13.6	3.8	16.6	34.1	42.9	38.4	30.5	24.2	13.0
1965	12.8	3.5	15.0	32.2	39.8	38.7	30.5	21.5	12.1
1964	12.1	3.3	13.9	29.6	38.0	35.6	29.9	25.3	11.4
1963	11.9	3.3	12.7	30.1	36.3	36.6	29.9	26.1	11.2
1962	11.7	3.2	13.0	29.0	35.4	36.5	29.7	26.3	11.0
1961	11.3	3.1	12.3	27.5	34.2	35.3	30.2	25.9	10.6
1960	11.3	2.9	11.8	27.6	32.7	37.4	32.1	28.8	10.5
White, male									
1977[1]	18.3	3.4	18.1	41.2	62.1	64.0	48.2	28.6	16.7
1976[1]	18.9	3.2	17.8	43.3	65.4	65.6	46.5	31.0	17.5
1975[1]	19.3	3.2	18.3	44.7	66.8	67.4	47.2	28.6	17.9
1974[1]	20.4	3.5	19.2	47.7	69.7	73.4	48.1	30.2	19.0
1973[1]	20.5	3.6	20.0	47.9	73.4	70.7	45.7	32.9	19.3
1972[1,2]	20.2	3.3	21.3	48.0	71.5	66.8	46.2	36.1	19.1
1971[1]	20.1	3.5	20.0	47.9	71.3	66.0	47.3	35.7	18.9
1970[1]	20.1	3.4	19.7	47.3	70.6	67.8	48.1	33.1	18.8
1969	19.2	3.3	19.2	45.3	68.2	62.1	45.2	36.4	18.0
1968	18.9	3.0	18.8	45.1	66.2	62.5	45.9	32.6	17.7
1967	18.3	3.0	18.1	43.4	64.6	61.7	42.4	33.1	17.2
1966	17.8	2.5	17.3	42.3	62.9	60.0	46.4	38.6	16.7
1965	16.6	2.5	15.2	39.8	57.7	57.4	48.4	32.5	15.6
1964	16.0	2.5	14.3	38.0	54.9	57.2	45.8	36.1	15.0
1963[3]	15.7	2.5	13.2	38.0	52.3	58.2	44.4	37.8	14.7
1962[3]	15.7	2.5	13.6	38.1	51.7	56.6	44.8	39.5	14.8
1961	15.4	2.5	13.3	35.9	50.3	56.6	47.0	34.8	14.2
1960	15.6	2.3	13.4	36.5	49.2	59.7	46.8	41.7	14.4
White, female									
1977[1]	9.1	1.3	7.5	19.4	27.0	27.7	20.1	13.0	7.5
1976[1]	9.3	1.3	8.1	20.4	28.7	25.8	20.5	13.7	7.7
1975[1]	9.4	1.3	7.9	21.6	30.2	24.8	19.2	11.9	7.9
1974[1]	10.0	1.7	9.8	22.9	31.4	26.4	19.2	14.0	8.6
1973[1]	10.1	1.6	10.1	24.0	31.8	25.8	19.2	14.3	8.7
1972[1,2]	9.9	1.6	10.3	23.6	30.2	25.2	20.5	13.1	8.6
1971[1]	10.0	1.7	10.6	24.1	30.0	25.3	20.5	15.3	8.7
1970[1]	10.0	1.6	10.8	24.7	29.6	24.1	21.2	15.4	8.7
1969	9.5	1.8	10.6	23.7	27.5	23.3	20.6	14.2	8.4
1968	9.6	1.8	10.4	23.8	27.6	24.5	20.2	18.8	8.5
1967	9.4	1.8	10.0	23.9	27.6	23.7	19.7	18.2	8.3
1966	8.9	1.8	9.9	22.7	24.4	22.8	20.8	17.0	7.9
1965	8.5	1.8	9.3	22.2	23.2	22.2	19.5	16.1	7.6
1964	8.2	1.7	9.3	20.4	23.2	20.4	19.8	21.1	7.3
1963[3]	8.0	1.6	8.8	21.1	21.1	20.4	20.6	21.1	7.2
1962[3]	7.6	1.7	9.0	18.9	19.7	20.3	19.6	19.7	6.8
1961	7.5	1.6	8.6	18.8	20.1	19.4	19.6	22.1	6.7
1960	7.4	1.8	8.2	18.1	18.0	20.8	22.7	22.2	6.6

See footnotes at end of table.

Table 7. Death rates for Cirrhosis of liver, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 571 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 581 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	24.9	18.3	55.2	87.5	88.9	50.3	35.0	11.1	31.4
1976[1]	25.4	18.6	61.2	86.3	90.7	54.0	23.5	8.8	32.3
1975[1]	25.3	20.1	57.4	86.1	89.1	56.3	33.0	17.2	32.1
1974[1]	26.7	20.9	65.1	93.6	88.3	54.7	31.5	12.3	34.0
1973[1]	26.6	20.8	68.4	88.8	86.4	54.0	31.0	35.8	33.9
1972[1,2]	27.5	21.0	70.2	96.9	81.8	62.8	30.6	27.5	35.1
1971[1]	24.4	20.2	63.1	82.8	73.0	51.6	29.2	20.4	31.1
1970[1]	24.6	22.7	65.6	82.6	71.3	47.5	24.9	9.0	31.3
1969	24.2	20.0	65.3	75.4	73.8	52.1	23.9	25.0	30.5
1968	23.0	21.0	54.4	81.1	67.9	46.9	25.8	14.6	29.0
1967	21.2	17.8	55.1	64.7	60.8	49.8	29.3	30.8	26.4
1966	20.8	19.8	50.8	65.5	60.1	46.9	26.8	30.6	26.0
1965	18.5	15.0	45.7	59.5	57.1	36.2	27.3	23.5	22.9
1964	15.7	12.0	37.5	49.7	49.2	32.9	30.2	9.4	19.3
1963[3]	13.9	11.1	31.8	39.4	47.0	34.0	24.8	17.2	16.9
1962[3]	13.9	10.2	31.5	38.6	45.3	34.8	25.5	31.0	16.7
1961	13.3	12.0	27.3	38.5	41.1	33.9	21.4	10.0	15.9
1960	12.6	9.3	23.8	39.1	41.5	30.9	23.3	22.3	14.9
All other, female									
1977[1]	12.9	9.6	27.1	42.1	38.4	22.3	18.3	6.8	15.0
1976[1]	13.1	8.9	30.7	41.6	38.1	24.9	14.5	5.0	15.4
1975[1]	13.2	9.8	30.7	40.8	39.8	24.4	11.5	11.8	15.5
1974[1]	14.7	11.6	34.3	48.7	42.2	22.2	14.0	8.2	17.4
1973[1]	15.2	11.7	36.8	51.0	41.3	25.1	14.4	1.1	18.0
1972[1,2]	14.4	14.6	39.1	43.8	33.5	22.9	9.2	7.3	17.2
1971[1]	14.2	12.3	37.5	46.2	34.6	20.0	12.2	11.8	16.9
1970[1]	14.6	14.2	40.5	43.4	34.6	20.7	15.4	3.8	17.4
1969	14.3	14.2	38.1	45.8	32.3	19.6	13.8	12.3	17.1
1968	13.9	13.5	37.8	44.3	29.7	18.2	10.0	11.5	16.5
1967	12.2	14.0	30.8	37.2	30.8	16.4	6.9		14.6
1966	12.3	12.1	32.5	38.4	30.2	15.0	11.8	9.4	14.7
1965	11.1	11.8	30.7	31.0	26.4	14.0	10.3	10.2	13.2
1964	9.5	11.5	26.2	25.5	19.5	12.0	10.7	8.9	11.2
1963[3]	9.3	12.0	21.0	27.3	21.5	14.0	8.9	14.3	10.9
1962[3]	9.3	11.3	21.3	26.9	20.9	15.8	11.4	7.5	10.9
1961	8.4	9.8	21.3	23.4	18.6	12.2	8.9	15.0	9.8
1960	7.9	9.0	18.5	23.1	17.1	11.5	13.1	14.9	9.1

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 8. Death rates for Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1969-77 rates are based on deaths assigned to category numbers 492, *519.3 used with the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1968, on deaths assigned to category number 492 of the Eighth Revision; and for 1960-67 rates are based on deaths assigned to category number 527.1 of the Seventh Revision adopted in 1955. The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics (NCHS). For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	18.7	0.1	1.1	7.8	35.9	102.2	181.8	169.2	12.6
1976[1]	18.3	0.2	1.2	8.1	36.9	101.6	174.7	169.5	12.5
1975[1]	17.1	0.2	1.2	7.9	36.3	97.3	161.4	143.5	11.9
1974[1]	16.2	0.1	1.1	7.9	35.4	94.5	151.6	134.3	11.5
1973[1]	16.0	0.1	1.2	8.1	36.7	94.0	147.1	138.4	11.6
1972[1,2]	14.7	0.1	1.2	7.8	34.4	88.3	135.9	122.3	10.9
1971[1]	14.0	0.1	1.4	8.2	33.1	83.3	125.5	116.9	10.4
1970[1]	13.4	0.2	1.4	7.6	33.0	82.0	116.5	99.8	10.1
1969	12.7	0.2	1.5	7.5	31.7	77.1	110.6	107.9	9.8
1968	12.1	0.2	1.4	7.1	30.7	74.0	106.8	103.5	9.2
1967	10.6	0.2	1.1	6.3	27.2	65.1	91.5	92.2	8.1
1966	10.4	0.1	1.2	6.3	27.1	63.9	90.1	87.8	8.0
1965	9.6	0.1	1.1	6.3	25.2	60.5	82.6	83.9	7.6
1964	8.3	0.1	1.0	5.7	22.6	51.2	68.9	68.3	6.5
1963	8.0	0.2	0.9	5.7	22.2	50.8	64.0	70.8	6.4
1962	6.7	0.1	1.0	4.6	18.7	42.2	53.0	55.4	5.3
1961	5.6	0.1	0.8	3.7	16.5	35.4	43.8	46.8	4.5
1960	5.2	0.1	0.8	4.0	15.5	32.6	38.6	38.4	4.2
White, male									
1977[1]	31.3	0.1	1.4	10.2	55.2	189.6	398.0	415.8	23.1
1976[1]	31.1	0.2	1.2	11.0	56.2	192.7	382.2	424.8	23.3
1975[1]	29.5	0.2	1.3	10.6	58.1	188.4	360.1	345.7	22.4
1974[1]	28.2	0.1	1.2	11.2	58.1	182.9	336.4	322.7	21.8
1973[1]	28.2	0.1	1.4	11.3	61.9	186.2	329.1	322.5	22.1
1972[1,2]	26.4	0.2	1.2	10.9	58.7	177.5	302.4	292.3	20.9
1971[1]	25.2	0.1	1.7	11.7	58.0	169.3	278.8	270.7	20.1
1970[1]	24.5	0.1	1.7	11.4	58.0	169.1	259.1	224.3	19.5
1969	23.5	0.2	1.8	11.4	57.4	160.6	244.3	234.5	18.9
1968	22.6	0.2	1.7	10.7	56.0	156.5	232.5	229.6	18.3
1967	20.1	0.1	1.5	10.0	51.1	138.2	201.1	203.4	16.3
1966	19.7	0.2	1.6	9.9	52.0	134.7	198.3	192.5	16.1
1965	18.4	0.1	1.5	10.2	48.2	126.2	177.3	177.1	15.1
1964	15.7	0.2	1.3	9.8	43.0	107.9	146.5	144.8	13.0
1963[3]	15.5	0.2	1.3	9.7	43.4	107.8	134.9	149.1	12.8
1962[3]	12.8	0.1	1.4	7.9	36.8	88.9	109.8	112.3	10.6
1961	10.7	0.1	1.1	6.1	32.6	72.8	88.6	89.2	8.8
1960	9.8	0.1	1.1	6.9	30.1	66.8	78.3	74.9	8.2
White, female									
1977[1]	9.8	0.0	0.6	5.2	20.1	44.6	64.9	70.7	5.8
1976[1]	9.2	0.1	0.9	5.3	19.6	41.0	61.9	65.0	5.6
1975[1]	8.2	0.1	1.0	5.1	19.0	36.8	51.5	59.3	5.1
1974[1]	7.4	0.1	0.8	5.1	17.2	34.5	48.6	52.2	4.7
1973[1]	6.8	0.0	0.9	4.8	16.0	31.5	43.7	56.8	4.4
1972[1,2]	6.0	0.1	1.0	4.4	14.4	27.8	38.1	45.1	3.9
1971[1]	5.5	0.1	0.8	4.6	12.7	24.2	35.7	46.4	3.6
1970[1]	4.9	0.1	0.9	4.2	12.2	22.1	29.8	38.3	3.3
1969	4.4	0.1	0.8	3.8	10.6	19.0	28.8	47.0	3.0
1968	4.0	0.1	0.8	3.4	10.0	16.6	26.8	43.4	2.7
1967	3.2	0.1	0.5	2.6	7.7	13.3	22.5	36.1	2.2
1966	3.0	0.1	0.7	2.6	6.7	13.7	21.2	34.1	2.1
1965	2.8	0.1	0.7	2.4	5.9	12.0	20.8	35.4	1.9
1964	2.3	0.1	0.6	2.0	5.2	9.7	18.0	28.6	1.6
1963[3]	2.2	0.1	0.4	2.1	4.8	9.1	17.7	28.1	1.5
1962[3]	1.8	0.1	0.5	1.7	3.8	7.5	15.7	25.4	1.3
1961	1.5	0.1	0.3	1.2	3.0	6.6	12.4	22.7	1.1
1960	1.3	0.1	0.4	1.1	2.9	5.5	11.3	16.9	1.0

See footnotes at end of table.

Table 8. Death rates for Emphysema and Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1969-77 rates are based on deaths assigned to category numbers 492, *519.3 used with the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1968, on deaths assigned to category number 492 of the Eighth Revision; and for 1960-67 rates are based on deaths assigned to category number 527.1 of the Seventh Revision adopted in 1955. The asterisk before category number 519.3 indicates that the title to which this number corresponds was not included in ICDA but was introduced by the National Center for Health Statistics (NCHS). For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	13.5	0.6	2.5	14.3	48.5	101.6	184.2	184.7	14.7
1976[1]	13.3	0.4	2.8	14.2	47.2	99.7	184.6	183.8	14.4
1975[1]	12.0	0.2	3.4	13.9	43.9	86.8	171.4	139.1	13.3
1974[1]	11.8	0.2	3.8	12.1	44.5	100.4	140.7	145.6	13.3
1973[1]	12.0	0.4	2.6	14.5	47.6	94.7	147.4	154.7	13.5
1972[1,2]	11.5	0.8	2.6	15.4	46.0	84.8	160.8	117.7	13.3
1971[1]	11.0	0.8	3.7	15.0	43.7	84.2	120.8	128.6	12.5
1970[1]	10.8	0.5	4.0	12.1	45.7	79.8	131.0	104.7	12.2
1969	10.1	0.2	3.6	15.1	39.6	78.1	107.4	118.2	11.6
1968	9.2	0.7	3.6	16.1	35.1	66.1	106.5	75.6	10.6
1967	7.8	0.8	2.5	11.6	29.5	60.7	82.1	110.3	8.9
1966	7.5	0.4	3.4	13.2	28.9	55.1	70.9	102.8	8.7
1965	7.1	0.2	2.1	12.9	28.7	49.0	75.0	102.9	8.1
1964	6.2	0.2	2.7	8.7	28.5	47.9	54.1	50.0	7.2
1963[3]	6.3	0.2	2.7	10.3	25.4	46.4	57.6	96.6	7.2
1962[3]	4.9	0.5	2.0	6.5	21.6	42.6	34.2	41.4	5.7
1961	4.6	0.4	2.4	7.3	18.0	31.6	40.9	53.3	5.2
1960	4.2	0.3	2.4	7.3	18.2	31.7	26.7	47.8	4.9
All other, female									
1977[1]	3.0	0.0	0.9	4.4	10.6	14.6	31.6	35.6	2.8
1976[1]	2.7	0.1	0.9	4.1	10.3	14.8	23.5	27.3	2.7
1975[1]	2.8	0.3	1.4	4.6	8.5	15.2	25.3	20.0	2.7
1974[1]	2.1	0.3	0.6	3.2	7.6	13.7	18.1	23.7	2.2
1973[1]	2.3	0.2	1.0	4.1	9.3	11.9	22.3	19.3	2.4
1972[1,2]	2.0	-	1.8	2.6	7.2	9.2	20.6	29.3	2.0
1971[1]	2.1	0.1	1.2	4.8	7.3	11.7	15.6	13.1	2.2
1970[1]	1.8	0.3	1.1	3.0	5.7	9.5	15.3	20.3	1.9
1969	1.6	0.4	1.3	3.1	5.0	6.7	14.9	26.2	1.7
1968	1.4	-	1.2	2.5	5.6	6.1	10.5	26.2	1.5
1967	1.2	0.3	1.2	1.8	3.5	6.2	9.1	15.8	1.2
1966	1.2	-	1.0	1.8	4.1	6.4	7.7	15.1	1.2
1965	1.0	0.3	0.6	2.3	3.2	4.4	8.5	10.2	1.1
1964	0.8	0.1	0.6	2.3	2.2	2.0	5.4	13.3	0.8
1963[3]	1.1	0.1	0.7	1.9	3.9	5.4	6.3	23.8	1.1
1962[3]	0.9	0.2	1.0	1.1	2.9	3.0	10.3	15.0	1.0
1961	0.7	0.1	0.3	0.9	1.6	4.3	8.9	12.5	0.7
1960	0.7	0.1	0.7	1.4	2.0	2.9	2.4	12.4	0.7

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 9. Death rates for Peptic ulcer, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category numbers 531-533 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 540, 541 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	2.7	0.2	0.7	1.9	4.9	10.5	24.3	46.3	1.8
1976[1]	3.0	0.3	0.9	2.5	5.6	12.1	25.5	46.5	2.1
1975[1]	3.2	0.3	0.9	2.5	6.2	12.8	27.5	49.4	2.2
1974[1]	3.3	0.3	1.1	2.7	7.1	13.6	29.1	50.1	2.4
1973[1]	3.7	0.4	1.2	3.3	7.6	15.8	30.8	54.2	2.7
1972[1,2]	3.8	0.4	1.3	3.6	8.0	16.4	31.2	55.2	2.9
1971[1]	3.9	0.4	1.4	3.9	8.4	16.7	33.1	57.5	3.0
1970[1]	4.2	0.5	1.4	4.0	9.6	18.0	35.5	59.6	3.2
1969	4.6	0.5	1.8	4.2	10.2	20.1	41.2	64.8	3.6
1968	4.7	0.5	1.7	4.5	10.8	21.5	39.5	69.0	3.7
1967	5.0	0.5	1.8	4.9	11.4	21.5	42.5	79.4	3.9
1966	5.3	0.5	1.9	5.3	11.8	23.8	46.5	79.0	4.2
1965	5.4	0.5	1.9	5.7	12.6	23.9	47.2	81.2	4.3
1964	5.7	0.6	2.2	5.9	13.6	25.8	50.8	86.2	4.6
1963	6.5	0.8	2.5	7.1	14.8	29.5	56.6	92.9	5.2
1962	6.6	0.7	2.6	7.0	15.4	30.6	57.3	94.6	5.4
1961	6.3	0.8	2.4	7.4	15.1	29.4	53.5	82.8	5.2
1960	6.3	0.7	2.5	7.3	15.7	29.9	53.6	77.9	5.2
White, male									
1977[1]	3.5	0.3	0.8	2.7	7.0	16.2	35.8	63.3	2.6
1976[1]	3.9	0.2	1.0	3.3	8.1	18.8	39.8	68.1	3.0
1975[1]	4.2	0.3	1.1	3.3	8.6	20.9	42.1	74.5	3.3
1974[1]	4.4	0.4	1.3	3.8	10.1	20.9	45.8	74.8	3.6
1973[1]	5.0	0.3	1.4	4.4	11.6	25.5	48.3	78.3	4.0
1972[1,2]	5.2	0.4	1.7	5.0	11.5	25.9	49.3	88.9	4.3
1971[1]	5.4	0.4	1.7	5.2	12.9	27.0	51.6	89.5	4.5
1970[1]	5.9	0.5	1.7	5.6	14.9	28.9	56.2	88.3	4.8
1969	6.5	0.7	2.2	6.3	15.8	32.4	63.8	94.7	5.4
1968	6.8	0.6	2.0	6.4	16.7	35.3	63.7	102.3	5.6
1967	7.3	0.6	2.3	6.8	18.6	36.6	66.5	121.2	6.0
1966	7.7	0.6	2.5	7.5	18.5	39.4	76.1	119.8	6.4
1965	8.0	0.6	2.5	8.1	20.6	40.7	75.6	128.7	6.8
1964	8.6	0.7	2.9	8.4	22.3	43.7	80.5	137.2	7.3
1963[3]	9.8	1.0	3.3	10.7	24.0	50.2	91.9	145.2	8.3
1962[3]	10.0	0.9	3.6	10.4	24.7	51.5	92.4	144.3	8.4
1961	9.7	1.1	3.5	11.0	25.1	49.5	86.3	129.2	8.3
1960	10.0	1.0	3.6	11.3	26.8	50.4	88.5	120.9	8.5
All other, male									
1977[1]	2.6	0.8	2.2	3.9	10.1	14.5	24.4	26.4	3.0
1976[1]	3.3	1.5	2.8	6.3	9.0	18.9	30.8	42.6	3.7
1975[1]	3.3	0.8	3.2	5.7	11.5	19.0	31.7	35.9	3.8
1974[1]	3.6	0.9	3.1	6.7	12.5	22.1	26.4	42.1	4.1
1973[1]	4.2	1.4	4.4	7.0	13.3	24.9	38.5	35.8	4.9
1972[1,2]	4.7	1.2	4.8	9.7	16.9	27.3	35.4	27.5	5.5
1971[1]	4.4	2.1	4.8	9.9	13.6	21.3	33.7	30.6	5.1
1970[1]	4.6	1.7	4.7	9.4	14.1	26.8	40.4	23.5	5.4
1969	5.0	1.3	4.5	8.9	17.6	27.0	53.7	22.7	5.8
1968	5.5	2.4	6.1	10.7	19.3	32.3	33.3	39.0	6.5
1967	5.4	1.5	5.5	12.1	18.4	25.1	47.8	61.5	6.3
1966	6.0	1.4	6.0	12.1	22.4	33.3	47.5	61.1	7.0
1965	5.6	1.6	5.0	12.9	19.4	28.2	47.7	38.2	6.6
1964	6.2	1.5	5.6	13.2	24.1	33.8	48.3	46.9	7.3
1963[3]	6.8	2.2	6.0	14.0	25.1	37.2	47.9	37.9	7.8
1962[3]	7.1	3.2	6.8	13.8	26.1	40.3	41.0	58.6	8.2
1961	6.7	3.3	5.7	14.8	22.0	38.1	45.9	56.7	7.8
1960	6.9	2.2	6.6	15.0	23.8	38.7	40.7	44.6	7.8

See footnotes at end of table.

Table 9. Death rates for Peptic ulcer, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category numbers 531-533 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 540, 541 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
White, female									
1977[1]	2.3	0.1	0.5	0.9	2.7	6.2	18.1	42.3	1.2
1976[1]	2.3	0.1	0.4	1.4	3.3	7.0	17.7	39.8	1.3
1975[1]	2.4	0.2	0.4	1.5	3.7	6.7	19.5	40.8	1.4
1974[1]	2.5	0.2	0.5	1.4	4.2	7.9	20.6	41.3	1.5
1973[1]	2.7	0.3	0.8	1.8	4.0	8.4	20.8	45.6	1.6
1972[1,2]	2.7	0.2	0.4	1.7	4.5	9.2	20.9	43.4	1.6
1971[1]	2.8	0.2	0.7	2.0	4.1	9.2	22.6	46.5	1.7
1970[1]	2.9	0.2	0.8	2.1	4.8	10.0	23.6	49.3	1.9
1969	3.1	0.3	1.0	1.9	4.9	10.8	27.1	54.2	2.0
1968	3.1	0.2	0.8	2.4	5.1	11.0	25.2	54.8	2.0
1967	3.1	0.2	0.9	2.6	4.8	10.6	27.3	60.9	2.0
1966	3.3	0.3	0.9	2.5	5.4	11.8	28.1	61.1	2.2
1965	3.2	0.3	1.0	2.8	5.2	11.4	28.9	60.9	2.2
1964	3.3	0.3	1.1	2.8	5.3	12.0	31.6	60.7	2.3
1963[3]	3.7	0.3	1.3	3.1	5.7	13.5	34.5	70.1	2.5
1962[3]	3.8	0.3	1.2	3.3	6.1	14.1	34.9	71.7	2.6
1961	3.4	0.3	1.1	3.3	5.7	13.2	31.7	58.6	2.4
1960	3.3	0.3	1.0	3.0	5.5	13.1	30.4	57.3	2.4
All other, female									
1977[1]	1.4	0.3	0.8	1.3	3.9	6.5	15.2	21.2	1.3
1976[1]	1.4	0.4	0.9	2.3	3.3	7.4	13.0	16.5	1.4
1975[1]	1.6	0.2	1.0	2.4	4.2	8.0	14.1	21.8	1.5
1974[1]	1.4	0.3	1.2	2.0	3.7	8.7	9.4	20.6	1.4
1973[1]	1.5	0.5	1.0	2.5	3.8	7.0	12.7	27.3	1.5
1972[1,2]	1.6	0.7	1.9	3.5	3.9	6.7	13.5	12.2	1.7
1971[1]	1.8	0.6	1.4	3.3	5.6	8.6	14.8	10.5	1.9
1970[1]	1.8	0.6	1.5	3.0	6.9	7.1	9.9	24.2	1.9
1969	2.1	0.7	2.4	2.8	5.6	11.5	19.0	30.8	2.2
1968	2.1	0.5	2.6	2.9	6.7	9.3	15.9	44.3	2.2
1967	2.2	0.7	2.2	3.1	6.6	8.1	20.3	35.1	2.3
1966	2.3	0.4	2.1	5.6	6.1	10.8	13.1	28.3	2.5
1965	2.2	0.5	1.9	4.1	7.2	9.0	19.2	24.5	2.3
1964	2.6	1.1	3.0	5.8	6.1	10.2	20.0	33.3	2.8
1963[3]	2.5	0.9	1.9	4.9	6.8	13.0	13.5	31.0	2.7
1962[3]	2.3	0.4	2.4	3.6	9.6	11.0	15.8	30.0	2.6
1961	2.5	0.7	1.7	5.2	9.2	11.6	18.3	40.0	2.8
1960	2.2	0.8	2.3	4.2	6.6	11.0	14.3	19.9	2.4

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 10. Death rates for Malignant neoplasm of esophagus, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category number 150 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 150 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
Both sexes	Rate per 100,000 population								
1977[1]	3.4	0.1	0.7	4.2	11.1	15.3	18.5	17.9	2.6
1976[1]	3.4	0.0	0.6	4.3	11.0	15.7	17.7	20.2	2.6
1975[1]	3.3	0.1	0.6	4.3	10.7	15.3	18.2	19.3	2.6
1974[1]	3.1	0.1	0.6	4.2	10.1	14.7	18.2	20.3	2.5
1973[1]	3.1	0.0	0.6	4.2	10.4	14.3	16.8	21.4	2.5
1972[1,2]	3.0	0.1	0.7	3.8	10.2	14.3	17.2	18.2	2.4
1971[1]	3.0	0.0	0.6	3.7	10.1	14.1	17.9	20.9	2.4
1970[1]	2.9	0.0	0.8	3.8	9.8	13.8	17.8	17.7	2.4
1969	2.9	0.1	0.7	3.6	9.4	13.8	17.9	21.6	2.3
1968	2.9	0.1	0.6	4.0	9.8	13.8	16.4	23.7	2.4
1967	2.8	0.1	0.7	3.7	9.5	13.6	18.0	21.2	2.3
1966	2.8	0.0	0.7	4.1	9.2	13.3	17.2	21.4	2.3
1965	2.9	0.0	0.6	3.8	9.4	14.0	18.4	22.9	2.3
1964	2.8	0.0	0.8	3.6	9.0	13.7	18.7	21.3	2.3
1963	2.7	0.1	0.7	3.6	8.5	14.3	17.4	23.2	2.3
1962	2.7	0.1	0.6	3.7	8.8	13.7	18.2	24.0	2.3
1961	2.7	0.0	0.6	3.4	8.5	13.4	18.8	25.7	2.2
1960	2.7	0.0	0.6	3.7	8.4	14.4	19.8	22.4	2.3
White, male									
1977[1]	4.3	0.1	0.6	4.3	13.9	23.0	30.1	30.9	3.4
1976[1]	4.3	0.1	0.5	4.5	13.4	24.3	30.4	33.7	3.5
1975[1]	4.3	0.1	0.5	4.4	13.8	23.9	30.8	34.6	3.5
1974[1]	4.1	0.1	0.5	4.4	13.2	22.9	30.1	36.0	3.4
1973[1]	4.0	0.0	0.5	4.5	13.1	22.0	28.8	35.5	3.3
1972[1,2]	4.0	0.1	0.6	3.8	13.5	22.4	30.2	31.9	3.3
1971[1]	4.1	0.1	0.5	3.9	13.9	22.5	30.1	35.9	3.4
1970[1]	3.9	0.1	0.7	4.0	13.4	21.9	28.9	30.8	3.3
1969	3.9	0.1	0.7	3.9	12.2	21.8	30.4	36.1	3.2
1968	3.9	0.1	0.6	4.3	13.2	22.1	26.7	40.1	3.3
1967	4.0	0.1	0.6	3.9	13.5	22.5	30.6	31.3	3.3
1966	3.8	0.1	0.6	4.4	12.2	21.9	28.8	32.7	3.2
1965	4.0	0.0	0.6	4.3	13.4	22.0	31.5	35.8	3.4
1964	3.9	0.1	0.7	4.2	12.9	23.0	29.5	33.8	3.4
1963[3]	3.7	0.0	0.6	3.9	11.7	22.5	27.0	40.8	3.2
1962[3]	3.9	0.1	0.5	3.9	12.9	22.0	30.7	38.6	3.3
1961	3.9	0.0	0.5	4.1	12.3	22.4	31.2	43.3	3.3
1960	4.0	0.1	0.5	4.5	12.2	23.4	31.7	34.1	3.4
White, female									
1977[1]	1.6	0.0	0.1	1.0	4.1	6.2	10.0	11.6	1.0
1976[1]	1.5	0.0	0.2	1.2	4.0	6.0	8.3	14.4	1.0
1975[1]	1.5	0.0	0.1	1.2	3.9	5.7	9.3	12.3	0.9
1974[1]	1.4	0.0	0.1	1.2	3.6	5.4	8.9	13.0	0.9
1973[1]	1.4	0.0	0.1	1.3	3.8	5.7	8.1	14.3	0.9
1972[1,2]	1.3	0.0	0.2	1.2	3.4	5.2	8.7	11.2	0.9
1971[1]	1.4	-	0.2	1.2	3.8	5.0	9.2	13.4	0.9
1970[1]	1.4	0.0	0.2	1.3	3.5	5.3	9.2	11.5	0.9
1969	1.3	0.0	0.2	1.2	3.7	5.1	9.2	13.8	0.9
1968	1.3	0.0	0.1	1.3	3.5	5.0	8.3	16.2	0.9
1967	1.2	-	0.2	1.3	3.0	4.5	8.4	15.8	0.8
1966	1.2	0.0	0.2	1.5	3.3	4.5	8.5	14.3	0.9
1965	1.2	0.0	0.2	1.3	3.0	5.0	8.7	15.1	0.9
1964	1.2	0.0	0.2	1.3	2.6	4.7	10.0	13.2	0.8
1963[3]	1.1	0.0	0.2	1.2	2.6	4.7	9.2	12.7	0.8
1962[3]	1.1	0.1	0.1	1.2	2.7	4.5	8.3	14.2	0.8
1961	1.1	0.0	0.3	0.9	2.7	4.4	9.4	15.1	0.8
1960	1.1	-	0.2	1.0	2.4	4.9	10.1	15.6	0.8

See footnotes at end of table.

Table 10. Death rates for Malignant neoplasm of esophagus, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 150 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 150 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	10.2	0.2	4.9	26.1	55.0	58.9	48.3	38.9	12.0
1976[1]	10.4	0.2	3.7	26.5	59.5	59.9	55.1	27.9	12.4
1975[1]	9.8	0.2	4.3	27.3	51.8	56.6	50.4	31.3	11.7
1974[1]	9.3	0.1	3.4	25.1	47.4	54.5	59.7	36.8	11.0
1973[1]	9.3	0.1	4.4	23.9	52.4	51.1	47.9	49.1	11.1
1972[1,2]	8.7	0.6	4.8	22.4	47.9	52.3	34.4	35.3	10.5
1971[1]	8.4	0.1	3.9	22.1	42.2	52.0	42.6	40.8	9.9
1970[1]	8.4		4.7	22.9	44.1	44.9	47.7	23.5	10.0
1969	8.5	0.1	3.7	22.5	44.3	52.9	39.4	43.2	10.1
1968	8.6	0.2	4.3	22.5	46.1	48.3	45.7	17.1	10.2
1967	8.2	0.2	4.7	22.1	41.5	44.7	45.7	38.5	9.7
1966	8.7	-	5.4	25.4	43.7	46.7	36.3	55.6	10.3
1965	8.0	0.2	3.1	21.4	40.5	52.1	38.6	35.3	9.5
1964	7.8	-	5.3	18.2	41.2	42.3	44.2	53.1	9.2
1963[3]	7.8	0.2	4.9	21.1	37.3	48.4	32.7	37.9	9.2
1962[3]	7.4	0.1	4.6	20.9	33.8	44.9	30.4	51.7	8.7
1961	6.9	0.2	4.5	19.3	33.5	37.6	34.6	33.3	8.1
1960	7.1	0.1	3.4	19.6	32.2	44.0	40.0	35.1	8.3
All other, female									
1977[1]	2.9	-	1.3	7.9	14.5	10.3	15.8	10.6	3.1
1976[1]	2.8	0.1	1.6	8.0	14.1	10.7	11.4	12.4	3.1
1975[1]	2.7	0.0	1.8	7.8	12.3	12.0	9.6	9.1	2.9
1974[1]	2.8	0.1	1.5	8.5	12.6	11.9	12.4	7.2	3.0
1973[1]	2.8	0.3	1.6	7.9	13.8	12.3	10.3	5.7	3.1
1972[1,2]	2.8	-	1.7	9.4	12.6	12.5	7.1	9.8	3.1
1971[1]	2.2	-	1.3	6.6	9.7	10.1	10.4	6.6	2.4
1970[1]	2.3	0.1	1.9	6.4	8.9	10.3	13.4	3.8	2.5
1969	2.0	0.1	1.6	5.8	9.2	7.8	6.9	7.7	2.2
1968	2.3	0.1	1.6	8.3	8.6	9.8	10.5	11.5	2.6
1967	2.0	0.3	1.6	6.0	9.5	8.3	8.2	7.0	2.3
1966	1.9	0.1	2.3	6.4	7.4	6.9	9.5	7.5	2.2
1965	2.2	0.1	2.2	6.5	8.9	9.7	7.0	20.4	2.5
1964	1.8	0.1	2.8	6.2	6.9	4.9	9.3	11.1	2.1
1963[3]	1.9	0.1	2.4	5.3	8.8	8.0	6.3	14.3	2.2
1962[3]	1.8	0.1	1.9	6.4	7.3	6.5	4.3	10.0	2.0
1961	1.6	0.1	1.3	5.4	6.7	6.8	5.0	17.5	1.8
1960	1.9	0.1	1.4	5.5	9.3	8.2	10.1	5.0	2.2

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 11. Death rates for Malignant neoplasm of buccal cavity and pharynx, excluding lip, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category numbers 141-149 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 141-148 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	3.8	0.2	1.0	5.4	12.6	16.3	19.0	22.7	3.1
1976[1]	3.7	0.2	1.0	5.2	12.4	15.9	18.1	22.6	3.0
1975[1]	3.7	0.2	1.0	5.4	12.4	16.5	17.9	23.5	2.9
1974[1]	3.7	0.1	1.1	5.2	12.4	15.6	20.1	23.5	3.0
1973[1]	3.6	0.2	1.1	5.3	12.1	16.1	17.9	25.9	2.9
1972[1,2]	3.5	0.1	1.0	5.1	12.4	15.1	17.9	24.6	2.9
1971[1]	3.6	0.2	1.1	5.3	12.6	15.4	18.8	26.5	3.0
1970[1]	3.6	0.2	1.2	5.1	12.6	15.2	20.2	26.8	3.0
1969	3.7	0.2	1.3	5.3	12.7	14.7	19.9	29.0	3.0
1968	3.6	0.1	1.1	5.6	11.9	14.4	19.8	31.2	2.9
1967	3.3	0.2	1.0	5.3	11.2	14.1	17.7	26.9	2.8
1966	3.4	0.2	1.2	5.3	10.9	14.3	19.7	31.3	2.8
1965	3.3	0.2	1.1	5.0	10.9	14.1	18.2	29.1	2.7
1964	3.3	0.2	1.1	5.1	10.9	14.2	20.0	33.9	2.8
1963	3.4	0.2	1.1	5.3	10.9	14.4	19.9	33.4	2.8
1962	3.4	0.2	1.2	5.0	10.3	14.9	21.3	36.5	2.8
1961	3.4	0.3	1.0	5.1	10.1	15.1	22.0	33.9	2.8
1960	3.3	0.2	1.1	5.2	9.6	15.1	22.9	31.2	2.8
White, male									
1977[1]	5.4	0.2	1.0	6.7	17.6	26.9	32.5	42.4	4.4
1976[1]	5.3	0.2	1.1	6.4	17.9	26.0	33.2	38.0	4.3
1975[1]	5.2	0.2	0.8	6.8	17.5	27.7	30.4	40.4	4.4
1974[1]	5.3	0.2	1.2	6.8	18.5	26.3	35.5	40.6	4.5
1973[1]	5.2	0.1	1.2	6.7	17.5	27.0	31.9	45.1	4.4
1972[1,2]	5.2	0.2	0.9	6.4	18.0	26.2	31.9	45.7	4.3
1971[1]	5.3	0.2	1.3	6.7	19.0	26.8	32.9	42.0	4.5
1970[1]	5.4	0.1	1.3	7.0	19.3	26.3	34.4	43.9	4.5
1969	5.5	0.2	1.2	6.9	20.0	26.4	35.1	47.2	4.6
1968	5.4	0.2	1.3	7.5	18.6	25.7	34.4	52.1	4.7
1967	5.1	0.2	1.1	7.2	18.5	23.9	31.2	48.0	4.4
1966	5.2	0.2	1.3	7.2	18.1	25.2	34.3	50.9	4.5
1965	5.1	0.2	1.2	7.2	17.7	24.9	32.1	50.1	4.4
1964	5.1	0.2	1.4	6.9	17.6	25.2	35.6	53.8	4.5
1963[3]	5.2	0.2	1.3	7.9	17.9	24.7	34.1	56.0	4.6
1962[3]	5.2	0.2	1.2	7.6	16.5	25.7	35.7	62.6	4.6
1961	5.3	0.4	1.2	7.3	17.0	25.8	38.0	56.1	4.5
1960	5.3	0.2	1.2	7.4	16.0	26.2	38.8	55.0	4.5
White, female									
1977[1]	2.3	0.1	0.4	2.5	6.7	8.3	11.0	15.4	1.5
1976[1]	2.2	0.2	0.5	2.2	6.5	8.0	9.5	17.4	1.5
1975[1]	2.3	0.1	0.5	2.6	6.8	8.1	10.7	17.1	1.6
1974[1]	2.2	0.1	0.5	2.3	6.3	7.4	11.2	16.8	1.5
1973[1]	2.2	0.1	0.5	2.6	6.4	7.5	9.6	19.0	1.5
1972[1,2]	2.0	-	0.5	2.5	6.4	6.6	9.2	16.0	1.4
1971[1]	2.2	0.1	0.5	2.9	6.4	8.9	10.4	20.7	1.5
1970[1]	2.1	0.1	0.6	2.6	6.1	6.7	10.9	18.7	1.5
1969	2.0	0.1	0.6	2.6	5.7	5.9	10.6	21.0	1.4
1968	1.9	0.1	0.6	2.8	5.5	5.7	10.6	21.8	1.4
1967	1.7	0.1	0.5	2.5	4.3	6.1	9.0	18.5	1.3
1966	1.8	0.1	0.5	3.0	4.2	5.8	10.0	22.2	1.3
1965	1.6	0.1	0.5	2.4	4.1	5.6	9.2	18.1	1.2
1964	1.7	0.2	0.5	2.5	4.6	5.1	9.1	23.5	1.3
1963[3]	1.7	0.1	0.7	2.4	4.0	5.9	10.2	20.8	1.3
1962[3]	1.7	0.1	0.7	2.0	4.1	6.0	11.0	22.9	1.3
1961	1.7	0.1	0.6	2.4	3.6	6.2	11.4	22.3	1.2
1960	1.7	0.2	0.7	2.7	3.7	6.0	11.6	17.9	1.3

See footnotes at end of table.

Table 11. Death rates for Malignant neoplasm of buccal cavity and pharynx, excluding lip, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category numbers 141-149 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States,* 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category numbers 141-148 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	6.4	0.5	5.1	19.3	31.3	28.2	33.8	20.8	7.7
1976[1]	6.3	0.7	4.7	20.4	28.6	30.8	25.2	17.6	7.5
1975[1]	6.1	0.2	5.1	19.5	29.9	29.1	24.6	18.8	7.4
1974[1]	5.5	0.2	5.3	15.9	26.6	26.0	29.6	17.5	6.7
1973[1]	5.8	0.7	4.4	18.4	26.4	30.9	23.0	11.3	7.0
1972[1,2]	5.3	0.6	4.0	16.6	27.9	22.8	24.9	11.8	6.4
1971[1]	5.2	0.6	4.5	16.3	23.7	24.5	21.3	18.3	6.3
1970[1]	5.3	0.8	4.4	15.1	23.8	24.4	33.7	18.0	6.3
1969	5.6	0.9	5.5	18.1	24.7	21.9	24.0	31.8	6.7
1968	5.3	0.5	4.1	17.9	23.3	24.2	22.0	29.3	6.3
1967	5.3	0.7	4.9	18.0	20.9	24.7	20.7	12.8	6.3
1966	4.7	0.5	4.4	12.9	20.7	23.3	24.5	25.0	5.6
1965	4.7	0.3	5.1	12.8	23.9	20.9	14.7	38.2	5.6
1964	5.1	0.7	3.1	16.9	19.9	25.2	27.3	46.9	6.0
1963[3]	4.5	0.7	3.4	12.4	21.9	21.0	20.0	27.6	5.4
1962[3]	4.5	0.2	3.9	12.7	19.7	20.7	23.6	24.1	5.1
1961	4.2	0.5	3.0	11.7	19.2	23.2	18.3	30.0	5.0
1960	3.9	0.8	3.7	12.1	14.3	18.4	18.6	31.9	4.5
All other, female									
1977[1]	1.9	0.0	1.4	5.5	8.2	6.1	8.1	6.1	2.0
1976[1]	1.8	0.1	1.2	5.8	7.6	6.8	6.8	6.6	2.0
1975[1]	1.8	0.4	1.2	6.3	6.3	5.4	8.7	10.0	1.9
1974[1]	1.8	0.3	1.7	5.8	5.9	7.2	5.7	9.3	2.0
1973[1]	1.8	0.3	1.4	5.3	6.8	7.0	7.9	5.7	2.0
1972[1,2]	1.9	0.3	1.6	5.8	6.6	6.4	10.6	9.8	2.1
1971[1]	1.6	0.2	1.2	5.2	6.6	5.0	8.2	7.9	1.8
1970[1]	1.7	0.1	1.6	4.3	7.0	6.2	8.7	16.5	1.8
1969	1.6	0.1	2.2	6.1	5.0	6.0	4.5	6.2	1.8
1968	1.5	0.2	1.8	5.0	4.5	5.4	7.9	9.8	1.7
1967	1.6	0.4	1.8	4.3	5.6	7.6	5.6	8.8	1.8
1966	1.5	-	2.7	3.9	4.6	4.8	9.0	11.3	1.7
1965	1.5	0.1	2.1	3.6	5.7	4.9	7.5	10.2	1.6
1964	1.4	0.2	1.7	3.3	5.1	6.6	8.8	8.9	1.6
1963[3]	1.3	0.1	1.5	3.9	4.8	6.2	5.2	9.5	1.5
1962[3]	1.3	0.4	1.4	3.0	4.7	5.9	8.7	12.5	1.5
1961	1.2	0.1	1.3	3.8	4.4	4.6	5.6	7.5	1.4
1960	1.4	0.4	1.2	3.7	5.0	6.6	11.3	9.9	1.6

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 12. Death rates for Malignant neoplasm of bladder, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77

[For 1968-77 rates are based on deaths assigned to category number 188 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 181 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	4.5	0.0	0.3	1.8	7.0	21.1	49.1	70.0	2.9
1976[1]	4.5	0.1	0.3	1.8	7.5	20.8	48.8	71.6	2.9
1975[1]	4.4	0.0	0.3	1.7	7.4	21.4	47.0	71.1	2.9
1974[1]	4.4	0.0	0.3	1.9	7.6	22.4	48.4	68.3	3.0
1973[1]	4.4	0.0	0.3	1.8	7.7	22.0	47.8	71.7	3.0
1972[1,2]	4.3	0.0	0.4	1.8	7.4	22.2	46.7	75.8	3.0
1971[1]	4.2	0.0	0.3	1.9	7.8	21.9	45.5	70.4	2.9
1970[1]	4.4	0.0	0.3	2.0	8.4	22.8	49.2	70.0	3.1
1969	4.2	0.0	0.3	1.9	8.1	22.4	46.7	69.7	3.0
1968	4.3	0.1	0.4	2.1	8.1	22.7	46.5	72.8	3.1
1967	4.4	0.0	0.4	2.3	8.5	24.2	48.3	74.5	3.2
1966	4.3	0.1	0.4	2.2	8.1	22.7	48.1	75.5	3.1
1965	4.3	0.1	0.4	2.3	8.9	23.2	47.2	73.5	3.2
1964	4.2	0.1	0.4	2.2	8.5	22.7	47.2	73.0	3.1
1963	4.3	0.1	0.4	2.6	8.9	24.0	48.0	78.5	3.3
1962	4.3	0.1	0.5	2.5	8.7	25.0	47.3	79.6	3.3
1961	4.3	0.1	0.4	2.6	8.8	23.9	48.0	74.8	3.3
1960	4.4	0.0	0.4	2.5	9.3	24.5	51.6	72.6	3.4
White, male									
1977[1]	6.9	0.0	0.4	2.7	11.0	36.4	91.1	135.0	5.0
1976[1]	6.9	0.1	0.3	2.7	11.7	36.4	91.2	135.7	5.0
1975[1]	6.8	0.0	0.4	2.6	11.6	38.2	88.1	137.9	5.0
1974[1]	6.8	0.1	0.3	2.9	12.0	38.5	89.0	128.1	5.1
1973[1]	6.7	0.1	0.4	2.5	11.9	38.5	87.6	131.2	5.1
1972[1,2]	6.6	-	0.4	2.5	11.4	39.7	84.5	135.0	5.0
1971[1]	6.4	0.0	0.4	2.8	12.0	38.3	80.6	119.8	4.9
1970[1]	6.7	0.0	0.5	2.6	13.4	39.3	84.7	120.7	5.2
1969	6.4	0.0	0.3	2.7	12.8	39.5	78.6	116.9	5.0
1968	6.5	0.1	0.4	3.0	12.8	39.3	80.1	132.1	5.1
1967	6.6	0.1	0.4	3.0	13.1	40.7	81.1	118.9	5.2
1966	6.3	0.1	0.5	3.0	12.6	37.4	80.7	130.0	5.0
1965	6.2	0.1	0.5	2.9	13.5	38.6	73.9	113.2	5.0
1964	6.2	0.1	0.4	2.8	12.5	38.3	77.4	120.6	4.9
1963[3]	6.3	0.1	0.4	3.2	13.7	39.8	75.5	119.6	5.1
1962[3]	6.3	0.1	0.5	3.2	13.4	40.3	73.9	120.7	5.1
1961	6.3	0.1	0.4	3.5	14.0	38.5	74.5	112.9	5.1
1960	6.5	0.0	0.5	3.3	14.1	39.7	80.3	110.0	5.2
White, female									
1977[1]	2.8	0.0	0.2	0.9	3.3	9.4	25.1	45.6	1.4
1976[1]	2.7	0.0	0.2	0.8	3.1	9.0	24.7	46.9	1.4
1975[1]	2.6	0.0	0.1	0.9	3.1	8.8	23.5	44.3	1.3
1974[1]	2.7	0.0	0.2	0.8	3.2	9.7	25.4	44.2	1.4
1973[1]	2.6	0.0	0.2	0.8	3.7	9.1	24.9	46.7	1.4
1972[1,2]	2.5	0.0	0.2	0.7	3.2	8.6	24.6	50.6	1.3
1971[1]	2.6	0.0	0.2	0.8	3.5	9.4	24.4	50.5	1.4
1970[1]	2.7	0.0	0.2	1.1	3.7	9.9	27.9	47.3	1.5
1969	2.5	0.0	0.3	0.9	3.1	9.4	26.9	48.8	1.5
1968	2.5	0.0	0.2	1.0	3.6	9.6	26.1	45.5	1.5
1967	2.7	0.0	0.2	1.2	3.6	11.1	27.8	54.4	1.6
1966	2.6	0.1	0.3	1.2	3.5	11.0	26.9	48.8	1.6
1965	2.8	0.0	0.2	1.2	3.9	11.1	30.4	56.2	1.7
1964	2.6	0.0	0.3	1.3	4.0	10.8	27.9	51.0	1.7
1963[3]	2.6	0.0	0.3	1.4	3.6	10.9	29.0	56.5	1.7
1962[3]	2.6	0.1	0.3	1.2	3.4	11.8	29.1	57.8	1.7
1961	2.7	0.1	0.2	1.1	3.8	11.7	31.2	57.4	1.7
1960	2.7	0.1	0.2	1.1	3.9	11.9	33.0	54.3	1.8

See footnotes at end of table.

Table 12. Death rates for Malignant neoplasm of bladder, by age, race, and sex; and corresponding age-adjusted rates: United States, 1960-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 188 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1960-67 rates are based on deaths assigned to category number 181 of the Seventh Revision adopted in 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male									
1977[1]	3.6	-	0.1	2.5	9.4	28.5	67.9	52.8	3.8
1976[1]	3.8	0.1	0.2	2.9	15.8	28.1	51.7	66.2	4.1
1975[1]	3.3	0.1	0.5	2.2	13.0	26.1	50.9	48.4	3.7
1974[1]	3.6	-	0.7	3.8	11.5	32.7	46.3	50.9	4.0
1973[1]	3.5	-	0.2	2.8	13.0	31.5	51.6	41.5	3.9
1972[1,2]	3.8	-	1.1	3.6	15.0	26.5	54.5	62.7	4.2
1971[1]	3.7	0.1	0.2	3.9	13.0	31.3	54.0	53.1	4.1
1970[1]	3.7	0.2	0.6	4.1	13.7	31.6	46.6	55.9	4.2
1969	3.8	-	0.6	3.4	15.9	30.2	50.0	70.5	4.3
1968	3.6	0.2	1.2	4.4	12.8	29.5	40.9	48.8	4.0
1967	3.9	-	0.4	5.0	17.0	31.8	42.9	43.6	4.4
1966	3.9	-	1.0	4.4	15.0	32.3	42.5	77.8	4.4
1965	3.6	0.2	0.5	5.2	17.1	27.2	36.4	38.2	4.1
1964	3.4	0.2	1.0	5.9	16.4	24.1	31.4	21.9	4.0
1963[3]	3.8	0.1	1.3	6.3	14.7	29.3	38.2	58.6	4.4
1962[3]	3.5	0.1	0.8	7.0	13.5	28.8	30.4	44.8	4.1
1961	3.7	0.2	1.3	6.6	13.6	31.1	30.2	43.3	4.2
1960	3.6	0.1	1.3	6.1	16.3	26.8	32.0	41.5	4.2
All other, female									
1977[1]	2.2	-	0.4	1.8	5.9	15.1	22.9	31.1	2.0
1976[1]	2.1	0.1	0.4	1.6	5.0	13.4	29.6	26.4	1.9
1975[1]	2.2	0.0	0.3	1.6	7.0	14.2	25.6	32.7	2.0
1974[1]	2.3	0.1	0.4	1.2	7.7	16.8	26.4	24.7	2.2
1973[1]	2.2	0.1	0.1	2.7	5.8	17.3	22.3	38.6	2.1
1972[1,2]	2.3	0.1	0.4	2.6	7.2	19.6	19.1	31.7	2.3
1971[1]	2.1	-	0.2	3.0	8.3	12.9	21.9	18.4	2.1
1970[1]	2.0	0.1	0.2	2.5	5.6	16.4	24.4	21.6	2.1
1969	2.1	-	0.1	2.8	8.3	13.0	24.3	20.0	2.1
1968	2.2	0.1	0.7	2.8	7.0	16.7	19.7	32.8	2.2
1967	2.7	0.1	0.8	4.3	9.5	18.7	24.2	40.4	2.8
1966	2.2	0.1	0.6	3.0	7.9	14.8	29.0	26.4	2.4
1965	2.4	0.2	0.3	3.7	9.3	15.5	25.8	28.6	2.6
1964	2.3	0.1	1.1	2.8	10.7	13.3	23.4	31.1	2.5
1963[3]	2.2	0.2	0.7	3.7	10.8	12.5	21.4	23.8	2.5
1962[3]	2.5	0.1	1.0	4.6	10.6	16.0	23.9	20.0	2.8
1961	2.1	0.1	0.8	4.6	7.3	15.1	17.8	15.0	2.3
1960	2.6	0.1	1.4	5.3	10.4	16.3	20.3	29.8	2.9

[1] Excludes deaths of nonresidents of the United States.
[2] Based on a 50-percent sample of deaths.
[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 13. Death rates for specified noncoronary cardiovascular diseases, and corresponding age-adjusted rates, by race and sex: United States, 1960-77—Con.

[Numbers after causes of death are category numbers of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA) and are used for 1968-77. Rates are based on deaths classified according to the Seventh Revision for 1960-67. For category numbers for Seventh Revision, see Note at end of table. For method of age adjustment, see appendix I]

Race, sex, and year	(1) Chronic disease of endocardium and other myocardial insufficiency (424,428)		(2) All other forms of heart disease (420-423, 425-427, 429)		(3) Hypertensive heart disease with or without renal disease (402,404)		(4) Diseases of arteries, arterioles, and capillaries (excluding arteriosclerosis); and Diseases of veins and lymphatics and other diseases of circulatory system (441-448, 450-458)		(5) Arteriosclerosis (440)	
	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted
	Rate per 100,000 population									
White, female										
1977[1]	1.8	0.9	20.7	10.7	5.1	2.3	17.7	9.3	16.7	5.5
1976[1]	2.0	1.0	19.2	10.1	5.3	2.3	17.7	9.4	17.2	5.8
1975[1]	2.2	1.1	17.4	9.5	5.6	2.5	17.4	9.6	16.9	5.9
1974[1]	2.3	1.2	16.4	9.2	6.0	2.8	18.2	10.2	18.9	6.9
1973[1]	2.5	1.3	15.7	9.0	6.4	3.1	17.8	10.2	19.1	7.2
1972[1,2]	2.7	1.5	14.6	8.5	6.8	3.3	17.5	10.2	18.8	7.4
1971[1]	3.0	1.6	13.0	7.7	7.1	3.5	17.3	10.3	18.4	7.3
1970[1]	3.2	1.8	12.4	7.4	7.7	3.9	17.3	10.4	18.4	7.5
1969	3.7	2.0	11.8	7.3	8.1	4.3	17.4	10.6	19.3	8.3
1968	3.8	2.1	10.9	6.8	9.0	4.8	17.4	10.8	19.7	8.7
1967	27.0	13.8	13.1	7.9	25.0	14.0	11.9	8.0	22.1	10.1
1966	28.2	14.6	13.2	8.1	27.2	15.5	11.7	8.0	22.8	10.7
1965	28.2	14.9	12.5	7.7	28.2	16.3	11.1	7.6	22.3	10.7
1964	28.4	15.3	11.9	7.5	30.1	17.7	10.3	7.1	22.2	11.0
1963[3]	29.7	16.2	11.7	7.5	32.0	19.2	10.0	7.0	22.4	11.3
1962[3]	29.2	16.2	11.1	7.1	33.5	20.3	9.3	6.5	22.5	11.5
1961	30.2	17.1	10.7	7.0	34.6	21.5	8.5	6.1	21.5	11.2
1960	32.2	18.7	11.2	7.4	37.1	23.6	8.4	6.1	21.8	11.7
All other, male										
1977[1]	1.8	1.9	34.9	38.3	7.1	7.8	18.3	20.1	6.9	6.4
1976[1]	2.2	2.4	34.7	38.2	7.1	7.9	18.9	21.1	6.8	6.2
1975[1]	2.0	2.2	33.2	37.0	7.5	8.5	18.8	21.1	7.4	7.0
1974[1]	2.3	2.5	31.9	36.1	8.1	9.0	19.2	21.9	8.3	8.2
1973[1]	2.8	3.0	33.3	37.7	9.1	10.4	19.3	22.0	8.5	8.5
1972[1,2]	2.9	3.3	32.4	36.8	10.1	11.6	20.3	23.4	9.4	9.6
1971[1]	3.1	3.4	28.8	32.7	10.4	12.0	20.1	23.1	8.2	8.3
1970[1]	3.8	4.3	28.0	32.0	11.8	13.6	19.6	22.4	8.9	9.1
1969	4.4	5.0	27.2	31.4	13.1	15.2	19.9	23.1	9.8	10.2
1968	5.3	6.0	25.4	29.2	14.1	16.2	21.2	24.5	10.3	10.8
1967	26.1	29.1	25.0	28.5	48.3	55.8	15.4	17.8	11.2	11.8
1966	26.6	29.7	25.2	28.9	53.4	62.0	15.2	17.7	12.4	13.3
1965	25.6	28.8	24.1	27.6	53.7	62.4	14.6	16.9	12.5	13.6
1964	26.6	30.0	24.4	27.8	56.0	65.0	13.9	16.2	12.4	13.6
1963[3]	30.1	34.1	24.7	28.3	61.2	71.0	14.2	16.4	13.4	14.8
1962[3]	29.2	32.9	24.7	28.2	62.4	72.0	12.1	14.1	13.7	15.0
1961	30.5	34.5	23.6	27.0	62.4	71.9	12.2	14.1	12.9	14.3
1960	31.2	35.2	24.0	27.4	67.1	77.5	11.6	13.4	14.0	15.5

See footnotes at end of table.

Table 13. Death rates for specified noncoronary cardiovascular diseases, and corresponding age-adjusted rates, by race and sex: United States, 1960-77

[Numbers after causes of death are category numbers of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA) and are used for 1968-77. Rates are based on deaths classified according to the Seventh Revision for 1960-67. For category numbers for Seventh Revision, see Note at end of table. For method of age adjustment, see appendix I]

Race, sex, and year	(1) Chronic disease of endocardium and other myocardial insufficiency (424,428)		(2) All other forms of heart disease (420-423, 425-427, 429)		(3) Hypertensive heart disease with or without renal disease (402,404)		(4) Diseases of arteries, arterioles, and capillaries (excluding arteriosclerosis); and Diseases of veins and lymphatics and other diseases of circulatory system (441-448, 450-458)		(5) Arteriosclerosis (440)	
	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted
	Rate per 100,000 population									
Both sexes										
1977[1]	1.9	1.2	24.6	16.8	4.8	3.0	20.1	13.3	13.3	8.2
1976[1]	2.0	1.3	23.2	16.1	5.0	3.0	20.2	13.6	13.7	8.4
1975[1]	2.1	1.4	21.2	15.0	5.1	3.2	20.0	13.8	13.6	8.6
1974[1]	2.3	1.5	20.4	14.7	5.7	3.6	20.7	14.5	15.3	7.6
1973[1]	2.4	1.6	19.7	14.4	6.1	3.9	20.8	14.8	15.5	8.0
1972[1,2]	2.7	1.9	18.3	13.7	6.5	4.3	20.9	15.1	15.6	8.2
1971[1]	3.0	2.0	16.6	12.4	6.8	4.5	20.4	14.9	15.3	8.2
1970[1]	3.3	2.3	15.9	12.0	7.3	4.9	20.6	15.0	15.6	8.4
1969	3.7	2.6	15.0	11.5	8.1	5.5	20.6	15.3	16.4	9.2
1968	3.9	2.8	14.1	10.9	8.9	6.1	20.9	15.6	16.8	9.6
1967	26.7	17.6	15.8	11.8	25.3	16.2	15.2	11.8	19.0	11.1
1966	27.4	18.2	15.9	12.0	27.7	20.1	14.7	11.5	19.9	11.9
1965	27.5	18.5	15.1	11.5	28.4	20.8	14.1	11.2	19.7	12.0
1964	27.9	19.0	14.5	11.2	30.1	22.2	13.5	10.8	19.4	12.1
1963	29.7	20.3	14.5	11.3	32.4	24.1	12.9	10.4	19.9	12.5
1962	29.4	20.3	13.9	10.9	33.5	25.0	12.2	9.8	19.8	12.6
1961	29.9	20.8	13.8	10.9	34.6	26.0	11.3	9.2	19.3	12.4
1960	31.8	22.5	14.3	11.3	37.0	28.2	11.0	9.0	20.0	13.2
White, male										
1977[1]	2.0	1.4	26.9	20.7	3.8	2.6	23.4	17.6	11.7	7.2
1976[1]	1.9	1.5	25.2	19.7	3.9	2.8	23.9	18.3	12.0	7.4
1975[1]	2.1	1.6	23.0	18.1	3.9	2.9	23.5	18.0	12.0	7.5
1974[1]	2.3	1.8	22.4	17.9	4.5	3.3	24.4	18.9	13.5	8.7
1973[1]	2.4	1.8	21.4	17.2	4.8	3.5	24.9	19.6	13.8	9.0
1972[1,2]	2.7	2.1	19.7	16.0	5.0	3.8	25.2	20.1	14.1	9.3
1971[1]	2.9	2.3	18.0	14.7	5.4	4.0	24.2	19.4	14.0	9.3
1970[1]	3.3	2.6	17.2	14.1	5.8	4.2	24.8	19.8	14.6	9.6
1969	3.7	2.9	16.2	13.4	6.5	5.0	24.6	19.9	15.3	10.4
1968	3.8	3.0	15.1	12.5	7.1	5.3	25.1	20.3	15.7	10.8
1967	27.0	20.4	17.0	13.7	18.9	14.8	18.7	15.3	18.0	12.5
1966	27.4	20.8	17.0	13.8	20.7	16.3	17.9	14.8	19.1	13.4
1965	27.7	21.1	16.1	13.2	21.2	16.7	17.4	14.4	19.0	13.5
1964	28.0	21.4	15.4	12.6	22.3	17.6	17.0	14.1	18.5	13.3
1963[3]	29.3	22.3	15.7	12.9	24.1	19.0	16.1	13.4	19.4	13.9
1962[3]	28.9	22.0	15.3	12.6	24.9	19.7	15.4	12.8	19.2	13.8
1961	30.1	23.0	15.2	12.6	26.2	20.7	14.3	11.9	19.0	13.8
1960	32.1	24.7	15.9	13.2	28.3	22.5	14.0	11.7	20.0	14.7

See footnotes at end of table.

Table 13. Death rates for specified noncoronary cardiovascular diseases, and corresponding age-adjusted rates, by race and sex: United States, 1960-77—Con.

[Numbers after causes of death are category numbers of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA) and are used for 1968-77. Rates are based on deaths classified according to the Seventh Revision for 1960-67. For category numbers for Seventh Revision, see Note at end of table. For method of age adjustment, see appendix I]

Race, sex, and year	(1) Chronic disease of endocardium and other myocardial insufficiency (424,428)		(2) All other forms of heart disease (420-423, 425-427, 429)		(3) Hypertensive heart disease with or without renal disease (402,404)		(4) Diseases of arteries, arterioles, and capillaries (excluding arteriosclerosis); and Diseases of veins and lymphatics and other diseases of circulatory system (441-448, 450-458)		(5) Arteriosclerosis (440)	
	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted	Total	Age-adjusted
All other, female	Rate per 100,000 population									
1977[1]	1.8	1.6	25.9	23.7	7.6	7.0	15.8	14.8	7.4	5.1
1976[1]	1.5	1.4	25.9	24.2	7.6	7.0	15.5	14.6	7.8	5.3
1975[1]	1.4	1.3	23.3	22.3	8.1	7.6	16.0	15.4	7.5	5.4
1974[1]	2.0	1.9	23.7	23.0	9.1	8.7	16.2	15.9	8.7	6.6
1973[1]	2.3	2.2	23.2	22.9	9.3	9.1	16.9	16.7	9.2	7.2
1972[1,2]	2.4	2.4	22.4	22.6	10.6	10.5	16.8	17.2	9.3	7.5
1971[1]	2.8	2.7	20.7	20.8	10.7	10.8	16.6	17.1	9.0	7.4
1970[1]	3.3	3.1	20.0	20.5	12.2	12.4	16.6	17.0	8.9	7.5
1969	3.6	3.5	18.9	19.7	13.6	13.7	16.5	17.3	9.5	8.1
1968	4.4	4.2	18.8	19.6	15.5	15.9	16.6	17.4	10.0	8.9
1967	22.6	22.0	18.8	19.5	50.1	52.5	13.9	15.0	10.7	9.5
1966	22.4	22.1	19.2	20.1	55.8	58.9	13.3	14.6	12.0	11.1
1965	22.5	22.4	18.0	19.1	57.0	60.9	12.4	13.6	11.9	11.1
1964	23.9	24.3	18.1	19.4	61.1	66.0	11.6	12.9	12.1	11.6
1963[3]	25.9	26.6	18.8	20.4	66.9	72.8	11.2	12.5	12.5	12.2
1962[3]	26.2	27.4	17.8	19.5	67.6	74.2	10.2	11.4	12.2	12.0
1961	25.2	26.8	17.6	19.4	69.5	77.0	9.7	10.9	11.4	11.4
1960	27.1	29.2	16.9	18.6	72.4	81.3	9.4	10.6	12.0	12.3

[1] Excludes deaths of nonresidents of the United States.

[2] Based on a 50-percent sample of deaths.

[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

NOTE: The most nearly comparable category numbers according to the Seventh Revision are: Col. (1), (421, 422); Col. (2), (430-434); Col. (3), (440-443); Col. (4), (451-468); and Col. (5), (450).

Table 14. Death rates for Malignant neoplasm of pancreas, by age, race, and sex; and corresponding age-adjusted rates: United States, 1950-77

[For 1968-77 rates are based on deaths assigned to category number 157 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1950-67 rates are based on deaths assigned to category number 157 of the Sixth and Seventh Revisions adopted, respectively, in 1948 and 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	9.5	0.2	1.7	7.4	22.4	46.0	77.5	81.1	6.7
1976[1]	9.2	0.2	1.5	7.6	22.3	45.6	74.6	76.4	6.6
1975[1]	9.1	0.2	1.6	7.3	22.7	46.0	74.7	76.3	6.7
1974[1]	8.9	0.2	1.6	7.7	23.3	44.9	71.7	75.2	6.7
1973[1]	8.9	0.2	1.7	7.7	22.7	45.4	72.1	79.8	6.7
1972[1,2]	8.7	0.2	1.7	7.5	22.0	46.2	69.0	76.8	6.6
1971[1]	8.7	0.3	2.0	7.6	21.8	45.8	70.5	80.0	6.6
1970[1]	8.6	0.2	1.9	8.0	22.8	45.4	72.8	78.0	6.7
1969	8.8	0.2	1.8	7.8	22.3	47.0	71.2	88.3	6.7
1968	8.7	0.2	1.8	8.0	22.8	45.9	72.0	85.0	6.8
1967	8.6	0.3	1.9	8.1	22.4	45.5	69.4	85.9	6.7
1966	8.4	0.3	2.0	8.0	22.1	44.4	68.1	90.1	6.6
1965	8.3	0.3	1.8	7.7	22.3	44.2	69.7	84.6	6.6
1964	8.0	0.3	1.9	7.8	21.6	43.9	68.3	81.0	6.5
1963	8.1	0.2	1.7	7.9	22.3	44.0	67.7	87.1	6.6
1962	8.1	0.3	1.8	8.1	22.5	43.7	67.0	81.1	6.6
1961	7.8	0.3	1.8	7.5	21.6	43.6	64.6	82.9	6.4
1960	7.6	0.3	1.7	7.8	20.8	41.8	65.8	75.7	6.2
1959	7.5	0.3	1.7	7.7	21.2	41.7	63.6	73.1	6.2
1958	7.4	0.3	1.7	7.7	20.8	40.2	62.1	71.9	6.1
1957	7.2	0.2	1.9	7.1	21.0	40.4	61.2	68.7	6.0
1956	7.4	0.2	1.7	7.7	21.7	39.6	64.4	72.1	6.2
1955	6.9	0.3	1.7	7.0	20.0	39.2	58.5	66.0	5.8
1954	6.8	0.3	1.7	7.1	19.7	38.5	57.1	65.2	5.7
1953	6.4	0.2	1.5	6.6	19.1	36.0	57.6	60.6	5.5
1952	6.3	0.2	1.6	6.7	19.3	34.4	56.6	60.4	5.4
1951	6.1	0.2	1.6	6.4	18.7	35.5	51.9	59.6	5.3
1950	5.9	0.3	1.5	6.8	18.2	34.5	53.2	56.2	5.3
White, male									
1977[1]	10.6	0.2	2.0	8.9	27.1	56.4	96.9	111.1	8.3
1976[1]	10.4	0.2	1.9	9.3	26.8	56.8	96.1	96.8	8.2
1975[1]	10.4	0.2	2.0	9.0	26.6	58.6	96.8	101.3	8.3
1974[1]	10.1	0.2	1.9	9.5	28.3	56.4	90.1	95.6	8.2
1973[1]	10.4	0.3	2.0	9.6	27.8	58.0	94.8	109.9	8.4
1972[1,2]	10.1	0.3	2.0	8.8	28.7	60.5	84.0	91.4	8.3
1971[1]	10.1	0.4	2.4	9.7	27.4	57.7	88.2	105.2	8.4
1970[1]	10.4	0.3	2.3	10.0	29.3	59.7	91.9	91.4	8.6
1969	10.3	0.3	2.3	9.9	27.9	59.2	89.6	110.6	8.5
1968	10.4	0.3	2.4	9.7	29.0	59.5	90.5	112.3	8.6
1967	10.3	0.4	2.5	10.1	28.7	60.0	86.4	110.6	8.6
1966	10.0	0.4	2.4	9.9	28.2	57.9	86.3	109.1	8.4
1965	9.9	0.4	2.5	9.6	27.9	56.6	86.4	110.5	8.3
1964	9.7	0.4	2.5	9.5	28.1	56.8	81.9	96.5	8.2
1963[3]	9.8	0.3	2.1	10.2	28.8	56.7	82.5	105.7	8.3
1962[3]	9.8	0.4	2.2	10.0	28.7	57.1	82.8	92.5	8.3
1961	9.6	0.3	2.1	9.3	27.8	55.8	81.6	96.8	8.1
1960	9.2	0.4	2.0	9.5	26.4	52.8	80.7	92.2	7.8
1959	9.2	0.3	2.0	9.7	26.5	53.3	77.8	93.9	7.8
1958	8.9	0.4	2.2	10.1	26.2	49.7	76.1	81.0	7.6
1957	8.9	0.3	2.2	8.9	26.6	50.7	76.0	78.8	7.5
1956	9.0	0.3	2.1	9.6	27.0	49.2	79.6	84.4	7.6
1955	8.5	0.3	2.1	8.5	25.0	49.9	72.6	74.1	7.2

See footnotes at end of table.

Table 14. Death rates for Malignant neoplasm of pancreas, by age, race, and sex; and corresponding age-adjusted rates: United States, 1950-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 157 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1950-67 rates are based on deaths assigned to category number 157 of the Sixth and Seventh Revisions adopted, respectively, in 1948 and 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
White, male—Con.									
1954	8.4	0.4	2.0	8.9	25.1	48.7	69.4	77.3	7.2
1953	8.0	0.3	2.0	8.5	24.4	44.1	70.0	69.8	6.8
1952	7.6	0.2	1.9	8.3	24.4	42.0	65.5	67.6	6.6
1951	7.7	0.3	2.0	7.9	23.9	44.7	64.2	73.4	6.7
1950	7.3	0.3	1.9	8.6	22.5	41.4	63.5	65.5	6.4
White, female									
1977[1]	8.9	0.1	1.2	5.2	16.3	36.0	66.0	71.4	5.2
1976[1]	8.5	0.2	1.1	5.2	16.6	35.0	62.0	70.1	5.1
1975[1]	8.3	0.1	1.0	4.9	16.8	35.1	61.2	69.5	5.0
1974[1]	8.2	0.2	1.2	5.4	17.1	35.0	60.3	69.7	5.1
1973[1]	7.9	0.1	1.2	5.3	16.5	34.1	58.9	68.8	5.0
1972[1,2]	7.8	0.1	1.2	5.1	14.9	34.8	60.6	70.6	4.9
1971[1]	7.7	0.2	1.3	5.2	15.0	35.0	59.4	69.7	4.9
1970[1]	7.7	0.1	1.4	5.7	15.7	33.3	60.8	74.7	5.0
1969	7.7	0.1	1.1	5.0	15.9	36.1	60.0	80.8	5.0
1968	7.5	0.1	1.2	5.6	15.6	34.2	60.4	73.9	5.0
1967	7.3	0.1	1.2	5.4	15.4	33.8	58.7	76.6	4.9
1966	7.2	0.3	1.3	5.3	15.2	33.2	56.3	83.3	4.9
1965	7.1	0.2	1.2	5.1	15.5	33.6	58.4	74.8	4.9
1964	6.9	0.3	1.1	5.3	14.2	33.1	57.2	77.3	4.8
1963[3]	6.8	0.1	1.2	4.8	14.7	32.9	57.7	80.4	4.8
1962[3]	6.8	0.2	1.1	5.2	15.6	32.4	57.2	77.0	4.8
1961	6.5	0.2	1.2	4.7	14.3	32.9	54.4	77.7	4.7
1960	6.5	0.2	1.1	5.3	14.3	32.3	57.1	72.7	4.7
1959	6.3	0.2	1.1	4.9	14.9	31.9	54.6	63.7	4.6
1958	6.2	0.2	1.2	4.7	14.3	31.9	53.0	71.5	4.6
1957	6.1	0.2	1.4	4.8	14.3	31.9	52.9	66.1	4.6
1956	6.2	0.1	1.1	5.1	15.5	32.3	55.0	68.9	4.7
1955	5.7	0.2	1.2	4.5	14.2	30.3	50.2	64.8	4.4
1954	5.7	0.2	1.2	4.7	14.0	30.9	49.6	63.1	4.4
1953	5.4	0.1	1.0	4.3	13.5	30.1	50.8	60.6	4.3
1952	5.4	0.2	1.1	4.4	13.7	28.8	52.1	59.7	4.3
1951	5.1	0.2	1.0	4.4	13.2	28.9	45.2	55.4	4.1
1950	5.2	0.2	0.9	4.7	13.9	29.7	48.4	54.8	4.3
All other, male									
1977[1]	9.3	0.3	3.2	13.3	39.4	68.8	97.4	79.2	10.5
1976[1]	9.0	0.5	1.9	13.2	37.7	71.4	86.8	69.1	10.1
1975[1]	9.2	0.3	3.6	13.2	44.0	66.6	91.5	53.1	10.6
1974[1]	8.3	0.2	2.3	12.2	38.7	62.3	85.2	59.6	9.6
1973[1]	8.8	0.4	2.7	14.1	36.3	74.5	73.2	75.5	10.1
1972[1,2]	8.5	0.5	4.2	16.1	33.8	61.7	78.5	82.4	9.9
1971[1]	8.7	0.5	4.0	12.1	39.2	64 3	87.6	69.4	10.0
1970[1]	8.4	0.4	2.4	13.4	34.9	65.0	89.1	54.1	9.6
1969	9.2	0.5	3.5	15.5	40.0	68.8	89.4	75.0	10.7
1968	9.0	0.7	3.2	16.0	38.3	63.5	89.8	82.9	10.4
1967	8.4	0.8	3.8	14.3	36.6	60.7	73.9	82.1	9.7
1966	8.4	0.3	3.7	16.2	36.0	63.4	85.9	80.6	9.8
1965	8.8	0.2	3.0	15.1	39.7	66.1	80.1	58.8	10.2
1964	7.7	0.3	3.6	14.6	32.2	60.7	59.3	68.8	9.0
1963[3]	7.8	0.6	3.7	12.7	35.2	56.3	68.5	65.5	9.0
1962[3]	7.4	0.4	3.0	16.4	30.5	50.9	63.4	51.7	8.6
1961	8.0	0.6	3.5	14.9	38.2	57.1	52.2	70.0	9.3
1960	7.4	0.5	4.1	13.7	33.5	58.0	48.7	25.5	8.7

See footnotes at end of table.

Table 14. Death rates for Malignant neoplasm of pancreas, by age, race, and sex; and corresponding age-adjusted rates: United States, 1950-77—Con.

[For 1968-77 rates are based on deaths assigned to category number 157 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1950-67 rates are based on deaths assigned to category number 157 of the Sixth and Seventh Revisions adopted, respectively, in 1948 and 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male—Con.									
1959	7.6	0.6	4.2	13.1	35.2	53.0	59.7	48.3	8.8
1958	7.2	0.5	2.2	15.0	34.2	51.9	50.4	48.1	8.5
1957	7.0	0.4	3.3	11.5	36.0	49.9	44.4	69.2	8.1
1956	6.9	0.4	3.0	13.4	33.7	42.9	60.0	36.0	8.0
1955	6.9	0.3	2.8	14.4	34.7	47.0	41.6	54.2	8.1
1954	5.8	0.5	2.5	12.7	26.9	36.6	48.7	18.2	6.8
1953	5.5	0.5	2.2	11.8	26.5	38.7	36.0	14.3	6.5
1952	5.8	0.2	2.8	13.4	29.1	31.3	42.7	50.0	6.7
1951	4.8	0.3	1.2	10.9	26.0	30.6	29.2	15.8	5.6
1950	4.5	0.9	2.7	9.5	22.2	28.2	22.8	37.5	5.3
All other, female									
1977[1]	6.8	0.3	1.9	8.8	24.7	42.4	63.5	43.9	6.6
1976[1]	6.8	0.2	1.3	8.5	24.4	45.3	62.3	50.4	6.6
1975[1]	6.6	0.3	1.7	7.6	26.3	42.6	62.8	37.3	6.5
1974[1]	6.5	0.3	1.8	9.1	25.5	42.7	62.2	36.1	6.7
1973[1]	6.3	0.1	2.4	8.1	25.8	39.9	60.6	36.4	6.5
1972[1,2]	5.8	-	1.7	8.9	21.9	38.5	49.6	61.0	6.0
1971[1]	6.4	0.3	2.1	8.0	23.4	47.0	56.3	55.3	6.6
1970[1]	5.9	0.1	2.2	7.3	23.7	40.5	54.0	49.6	6.1
1969	5.5	0.2	2.0	8.0	19.7	41.9	44.5	44.6	5.8
1968	5.7	0.2	1.6	8.1	23.5	42.5	46.0	44.3	6.1
1967	5.5	0.3	1.6	10.2	22.2	35.6	50.6	35.1	6.0
1966	5.5	0.2	1.9	9.3	23.3	33.6	55.7	47.2	6.0
1965	5.2	0.2	1.3	8.4	23.2	31.3	52.6	38.8	5.6
1964	5.2	0.3	1.7	9.8	25.0	31.9	42.0	24.4	5.8
1963[3]	5.2	0.5	1.7	9.4	22.3	34.4	47.4	33.3	5.8
1962[3]	5.5	0.2	2.1	9.7	25.9	35.7	41.3	50.0	6.1
1961	5.1	0.2	2.5	9.9	21.1	35.8	38.9	47.5	5.8
1960	4.5	0.4	1.7	9.3	21.3	27.2	42.4	17.4	5.2
1959	4.5	-	2.3	9.0	21.1	27.7	37.3	38.5	5.2
1958	4.6	0.5	1.7	7.9	23.6	27.3	46.4	18.4	5.3
1957	4.0	0.3	1.8	7.3	22.0	25.1	27.6	16.2	4.7
1956	4.2	0.4	1.8	9.1	22.9	21.7	29.0	33.3	4.9
1955	3.7	0.3	1.5	9.3	17.9	22.4	28.0	17.6	4.4
1954	3.7	0.2	2.0	7.9	19.5	20.5	27.8	15.6	4.3
1953	3.0	0.4	1.7	6.3	15.0	16.5	28.1	12.9	3.6
1952	3.3	0.2	1.5	6.6	17.3	21.8	27.6	13.8	4.0
1951	3.2	0.4	2.3	7.6	16.2	17.3	19.8	21.4	3.8
1950	2.7	0.2	1.2	6.1	15.5	17.9	20.5	7.7	3.4

[1] Excludes deaths of nonresidents of the United States.

[2] Based on a 50-percent sample of deaths.

[3] Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

Table 15. Death rates for Malignant neoplasm of kidney, by age, race, and sex; and corresponding age-adjusted rates: United States, 1950-77

[For 1968-77 rates are based on deaths assigned to category numbers 189.0-189.2 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1950-67 rates are based on deaths assigned to category number 180 of the Sixth and Seventh Revisions adopted, respectively, in 1948 and 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
Both sexes									
1977[1]	3.4	0.2	1.0	4.0	9.0	15.5	22.0	20.7	2.6
1976[1]	3.3	0.2	0.9	3.9	8.9	15.4	21.1	20.4	2.6
1975[1]	3.3	0.2	1.0	3.8	8.8	15.3	21.3	19.2	2.5
1974[1]	3.3	0.2	1.0	3.7	9.2	15.3	21.5	18.5	2.6
1973[1]	3.1	0.2	0.9	3.6	9.0	14.6	19.9	20.3	2.5
1972[1,2]	3.2	0.1	1.0	3.5	8.8	15.8	20.4	18.6	2.5
1971[1]	3.1	0.2	0.9	3.7	8.6	14.9	20.6	19.6	2.5
1970[1]	3.1	0.2	1.1	3.6	8.9	14.5	21.3	18.1	2.5
1969	3.1	0.2	1.0	3.7	8.7	14.5	20.2	20.2	2.5
1968	3.1	0.2	1.0	3.6	8.5	15.1	19.5	18.5	2.5
1967	3.0	0.2	1.0	3.4	8.3	14.9	19.1	18.7	2.4
1966	3.0	0.2	1.0	3.7	8.4	14.6	19.2	18.0	2.5
1965	2.9	0.2	1.1	3.5	8.2	14.6	18.0	16.6	2.4
1964	2.9	0.2	1.0	3.8	8.2	14.0	17.7	17.2	2.4
1963	2.9	0.2	0.9	3.7	8.1	14.3	18.1	17.1	2.4
1962	2.8	0.2	0.9	3.6	7.9	14.1	16.8	16.2	2.4
1961	2.8	0.2	1.0	3.4	8.3	14.0	17.4	18.4	2.4
1960	2.8	0.2	1.0	3.3	8.1	13.6	17.0	14.7	2.3
1959	2.7	0.3	0.8	3.4	8.1	13.4	16.8	15.0	2.3
1958	2.7	0.2	1.0	3.6	7.6	13.7	16.3	15.2	2.3
1957	2.7	0.2	1.0	3.5	8.1	13.3	16.4	15.5	2.4
1956	2.7	0.2	0.9	3.4	8.2	12.8	15.6	15.1	2.3
1955	2.6	0.3	0.9	3.3	8.2	12.7	15.9	14.2	2.3
1954	2.6	0.2	1.0	3.3	8.0	12.2	16.2	11.9	2.3
1953	2.5	0.2	1.0	3.3	8.1	12.3	13.5	12.3	2.2
1952	2.5	0.3	0.9	3.2	8.2	12.4	14.2	13.5	2.2
1951	2.4	0.2	0.9	3.3	7.6	11.7	13.7	11.2	2.1
1950	2.4	0.2	0.9	3.3	7.8	11.9	13.9	11.4	2.2
White, male									
1977[1]	4.6	0.2	1.4	5.9	13.0	22.8	33.8	34.5	3.8
1976[1]	4.5	0.2	1.2	5.6	13.2	22.9	31.8	31.9	3.7
1975[1]	4.4	0.1	1.4	5.6	13.1	22.6	30.6	30.6	3.7
1974[1]	4.5	0.2	1.4	5.7	13.3	22.8	33.0	28.8	3.8
1973[1]	4.3	0.2	1.3	5.1	13.4	22.0	29.0	31.2	3.6
1972[1,2]	4.4	0.1	1.2	5.1	13.3	23.4	33.3	28.1	3.7
1971[1]	4.3	0.2	1.2	5.3	12.6	23.0	32.0	29.2	3.7
1970[1]	4.3	0.2	1.4	5.1	13.1	22.1	30.5	27.1	3.6
1969	4.2	0.2	1.4	5.6	12.9	20.8	31.3	26.7	3.6
1968	4.2	0.2	1.4	5.2	12.5	22.4	28.7	23.8	3.6
1967	4.0	0.2	1.4	5.2	12.1	21.4	26.5	23.8	3.5
1966	4.1	0.2	1.5	5.3	12.4	21.8	27.0	26.5	3.5
1965	3.9	0.2	1.4	5.1	12.1	21.3	24.4	18.2	3.4
1964	3.9	0.3	1.3	5.5	11.9	20.9	24.1	20.6	3.4
1963[3]	3.9	0.3	1.1	5.3	11.8	20.5	26.2	19.9	3.4
1962[3]	3.7	0.2	1.2	5.2	11.0	19.8	22.7	20.4	3.2
1961	3.8	0.3	1.3	4.8	11.8	20.4	24.2	19.6	3.3
1960	3.8	0.3	1.4	4.7	12.1	19.1	22.9	16.9	3.3
1959	3.7	0.2	1.1	5.2	11.5	18.5	22.9	19.3	3.2
1958	3.6	0.2	1.3	5.0	11.1	19.0	20.7	16.8	3.2
1957	3.6	0.3	1.3	4.8	11.7	18.3	20.5	17.0	3.2
1956	3.6	0.2	1.1	4.7	11.6	18.5	19.9	15.9	3.1
1955	3.5	0.3	1.1	4.7	11.7	17.9	18.2	16.3	3.1

See footnotes at end of table.

Table 15. Death rates for Malignant neoplasm of kidney, by age, race, and sex; and corresponding age-adjusted rates: United States, 1950-77—Con.

[For 1968-77 rates are based on deaths assigned to category numbers 189.0-189.2 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1950-67 rates are based on deaths assigned to category number 180 of the Sixth and Seventh Revisions adopted, respectively, in 1948 and 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
White, male—Con.									
1954	3.5	0.3	1.4	4.4	11.2	16.6	20.6	13.8	3.0
1953	3.4	0.2	1.4	4.5	11.8	16.7	16.3	17.2	3.0
1952	3.4	0.2	1.2	4.8	11.6	16.2	17.9	15.4	2.9
1951	3.2	0.3	1.1	4.5	10.5	15.3	16.9	13.1	2.8
1950	3.2	0.2	1.2	4.6	10.7	15.4	17.0	14.2	2.8
White, female									
1977[1]	2.7	0.1	0.6	2.4	5.8	10.9	16.0	16.4	1.7
1976[1]	2.6	0.2	0.5	2.4	5.4	10.4	15.8	16.9	1.7
1975[1]	2.6	0.1	0.7	2.3	5.4	10.4	16.8	15.1	1.7
1974[1]	2.5	0.1	0.5	2.0	5.9	10.6	15.6	15.1	1.7
1973[1]	2.4	0.1	0.6	2.1	5.3	9.7	15.6	16.6	1.6
1972[1,2]	2.3	0.1	0.7	2.1	5.2	10.6	13.0	15.0	1.6
1971	2.3	0.2	0.5	2.3	5.2	9.6	14.8	15.4	1.6
1970	2.4	0.2	0.7	2.1	5.5	9.5	16.4	14.7	1.7
1969	2.3	0.2	0.6	2.0	5.2	10.4	14.0	17.9	1.6
1968	2.3	0.2	0.7	2.0	5.2	10.3	14.3	16.9	1.7
1967	2.3	0.2	0.6	1.8	5.0	10.4	15.3	17.0	1.7
1966	2.3	0.2	0.7	2.2	5.0	10.0	14.9	14.4	1.7
1965	2.3	0.2	0.8	2.2	5.0	10.1	14.2	17.3	1.7
1964	2.2	0.1	0.7	2.2	5.1	9.4	14.3	16.3	1.6
1963[3]	2.2	0.2	0.5	2.1	4.9	10.2	13.2	17.7	1.6
1962[3]	2.2	0.2	0.6	2.1	5.1	10.0	13.8	14.2	1.7
1961	2.2	0.2	0.6	2.1	5.1	9.5	13.5	18.0	1.7
1960	2.1	0.1	0.5	2.0	4.9	9.7	13.7	14.2	1.6
1959	2.1	0.2	0.5	1.9	5.2	9.7	13.4	13.1	1.6
1958	2.1	0.2	0.6	2.2	4.8	10.0	14.0	16.3	1.7
1957	2.2	0.2	0.6	2.2	5.0	9.7	14.6	16.2	1.7
1956	2.0	0.2	0.6	2.1	5.3	8.8	13.3	15.4	1.6
1955	2.1	0.2	0.6	2.0	5.2	9.4	15.4	14.0	1.7
1954	2.0	0.1	0.6	2.1	5.3	9.4	13.9	12.2	1.6
1953	2.0	0.2	0.7	2.2	5.0	9.2	12.4	10.5	1.6
1952	2.0	0.2	0.5	1.7	5.2	9.9	12.2	13.1	1.6
1951	1.9	0.2	0.6	2.1	5.2	9.4	12.3	11.1	1.6
1950	1.9	0.1	0.6	2.0	5.3	9.5	12.5	9.9	1.6
All other, male									
1977[1]	2.5	0.4	1.3	5.3	10.4	15.4	18.4	8.3	2.9
1976[1]	2.6	0.3	1.2	5.5	11.2	17.1	15.4	16.2	3.0
1975[1]	2.5	0.7	1.2	4.2	10.0	17.7	17.0	18.8	2.8
1974[1]	2.4	0.6	1.8	4.5	10.6	12.7	16.7	12.3	2.8
1973[1]	2.4	0.2	1.0	5.5	10.7	14.5	14.1	13.2	2.7
1972[1,2]	2.6	0.4	1.9	4.7	10.5	16.4	23.9	15.7	3.0
1971[1]	2.3	0.4	1.4	4.2	10.2	15.0	15.8	22.4	2.7
1970[1]	2.4	0.1	1.5	5.6	9.6	14.6	19.7	12.6	2.8
1969	2.3	0.5	1.1	4.5	11.4	14.6	13.3	11.4	2.7
1968	2.7	0.4	1.7	6.3	11.4	16.0	18.3	7.3	3.1
1967	2.5	0.4	1.2	5.2	10.7	15.8	15.2	12.8	2.9
1966	2.1	0.2	1.1	5.5	9.0	10.9	12.8	11.1	2.4
1965	2.2	0.6	1.8	3.2	8.8	13.2	16.5	5.9	2.5
1964	2.3	0.4	1.2	5.6	8.6	13.5	10.5	15.6	2.6
1963[3]	2.0	0.2	1.7	5.3	8.6	10.1	7.9	-	2.4
1962[3]	2.2	0.3	1.9	5.6	7.6	12.4	9.3	13.8	2.5
1961	2.2	0.3	2.4	3.4	10.1	10.4	10.1	16.7	2.5
1960	2.0	0.2	1.3	4.9	6.8	12.1	9.3	9.6	2.2

See footnote at end of table.

Table 15. Death rates for Malignant neoplasm of kidney, by age, race, and sex; and corresponding age-adjusted rates: United States, 1950-77—Con.

[For 1968-77 rates are based on deaths assigned to category numbers 189.0-189.2 of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*, 1965 (ICDA); for 1950-67 rates are based on deaths assigned to category number 180 of the Sixth and Seventh Revisions adopted, respectively, in 1948 and 1955. For method of age adjustment, see appendix I]

Race, sex, and year	All ages	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85 years and over	Age-adjusted rate
	Rate per 100,000 population								
All other, male—Con.									
1959	2.0	0.5	1.2	2.5	8.5	13.4	9.7	10.3	2.2
1958	2.2	0.7	1.5	5.5	7.4	10.3	12.2	3.7	2.4
1957	2.1	0.3	1.7	4.9	8.3	9.8	7.4	3.8	2.3
1956	1.9	0.3	1.4	4.1	8.1	7.5	10.0	12.0	2.1
1955	1.7	0.5	1.1	3.2	8.7	5.8	5.6	8.3	1.9
1954	1.8	0.5	1.3	4.1	8.4	7.7	4.2	-	2.1
1953	1.7	0.3	1.3	3.6	6.7	8.1	4.4	-	1.8
1952	1.8	0.7	1.5	3.6	8.2	6.6	8.2	-	2.0
1951	1.5	0.3	1.1	2.8	6.5	8.0	3.8	-	1.6
1950	1.6	0.3	1.0	3.9	5.4	7.0	6.9	5.4	1.7
All other, female									
1977[1]	1.4	0.3	1.0	2.1	3.8	6.7	11.1	9.1	1.4
1976[1]	1.4	0.2	0.6	2.4	3.3	7.9	12.7	5.8	1.4
1975[1]	1.3	0.4	0.8	1.7	3.9	7.0	10.9	6.4	1.3
1974[1]	1.2	0.4	0.6	2.1	4.1	6.2	9.7	5.2	1.3
1973[1]	1.2	0.1	0.5	1.9	5.0	6.7	7.2	4.5	1.3
1972[1,2]	1.3	0.1	0.8	2.1	3.7	8.0	7.8	7.3	1.3
1971[1]	1.4	0.5	1.0	2.1	4.7	6.4	5.2	9.2	1.4
1970[1]	1.2	0.1	0.9	2.9	4.0	4.4	6.3	5.1	1.3
1969	1.3	0.4	1.1	2.4	3.9	5.8	7.7	12.3	1.4
1968	1.2	0.3	0.7	1.8	3.6	5.5	6.7	9.8	1.2
1967	1.2	-	0.5	1.9	4.4	7.6	5.6	8.8	1.3
1966	1.2	0.3	0.6	2.3	4.3	6.0	7.7	7.5	1.3
1965	1.2	0.3	0.6	2.0	3.7	5.7	8.5	4.1	1.3
1964	1.2	0.2	1.1	2.2	4.3	4.0	6.8	4.4	1.3
1963[3]	1.1	0.1	0.6	2.5	3.6	5.3	4.7	7.1	1.1
1962[3]	1.4	0.2	1.1	2.3	5.9	5.1	6.0	5.0	1.5
1961	1.3	0.6	1.0	2.2	4.8	5.0	5.6	15.0	1.4
1960	1.2	0.2	0.8	2.0	4.2	5.1	6.6	7.4	1.3
1959	1.2	0.3	1.0	2.4	4.1	3.9	3.1	7.7	1.2
1958	1.1	0.3	0.7	2.2	3.8	4.7	3.3	5.3	1.2
1957	1.0	0.1	0.8	1.5	4.3	5.3	4.1	2.7	1.1
1956	1.2	0.5	1.1	1.7	4.0	4.7	4.3	5.6	1.3
1955	1.0	0.5	0.7	2.3	3.3	3.6	5.3	2.9	1.1
1954	1.0	0.4	0.8	2.6	2.9	2.4	8.7	-	1.1
1953	1.0	0.1	1.0	2.7	3.0	4.6	5.0	-	1.2
1952	1.1	0.1	0.8	2.1	3.7	5.0	2.6	10.3	1.2
1951	1.0	0.5	0.9	2.9	2.7	3.2	3.6	3.6	1.2
1950	1.1	0.8	0.8	1.7	4.2	4.6	2.9	11.5	1.2

[1]Excludes deaths of nonresidents of the United States.
[2]Based on a 50-percent sample of deaths.
[3]Figures by race exclude data for residents of New Jersey because this State did not require reporting of the item for these years.

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I. U.S. Standard Certificate of Death as revised in 1968 77

Appendix I. Technical notes

Nature and sources of data

Except for 1972, data shown in this report are based on information from all death certificates from the District of Columbia and from all States as they were admitted to the death registration area. The 1972 data are from a 50-percent sample of deaths. Mortality statistics are based on information obtained directly from copies of the original certificates received from the registration offices except for data provided in recent years to the National Center for Health Statistics (NCHS) through the Cooperative Health Statistics System (CHSS).

For the latter, mortality data for 1977, except data for cause of death, were coded from the original certificates and provided on computer tape through CHSS by the following 22 States: Alabama, Colorado, Florida, Illinois, Kansas, Kentucky, Maine, Maryland, Minnesota, Missouri, Montana, Nevada, New Hampshire, New York (except New York City), Oklahoma, Oregon, Rhode Island, South Carolina, Tennessee, Texas, Vermont, and West Virginia. The seven States of Iowa, Louisiana, Michigan, Nebraska, North Carolina, Virginia, and Wisconsin also submitted through this system mortality data that included information on cause of death.

Data for the United States refer to events occurring within the United States. Beginning with 1970 mortality statistics exclude deaths of nonresidents of the United States, except in a few tables where it is specified that they are included. Deaths among Armed Forces overseas and among U.S. nationals living abroad are excluded for all years.

Race

The category "white" includes, in addition to persons reported as "white," persons reported to be Mexican or Puerto Rican. The category "all other" consists of persons reported as black, American Indian, Chinese, and Japanese; other numerically small racial groups; and persons of mixed white and other races.

Population bases

Rates were computed on the bases of population statistics made available by the U.S. Bureau of the Census. Rates for decennial years are based on the populations enumerated in censuses of those years, taken as of April 1. Rates for all other years are based on midyear (July 1) estimates published by the Bureau of the Census.

Age-adjusted rates

The age-adjusted rates presented in this report were computed by the direct method, that is, by applying the age-specific death rates for a particular cause to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard. The standard population used, in terms of a million, is shown below.

All ages	*1,000,000*
Under 1 year	15,343
1-4 years	64,718
5-14 years	170,355
15-24 years	181,677
25-34 years	162,066
35-44 years	139,237
45-54 years	117,811
55-64 years	80,294
65-74 years	48,426
75-84 years	17,303
85 years and over	2,770

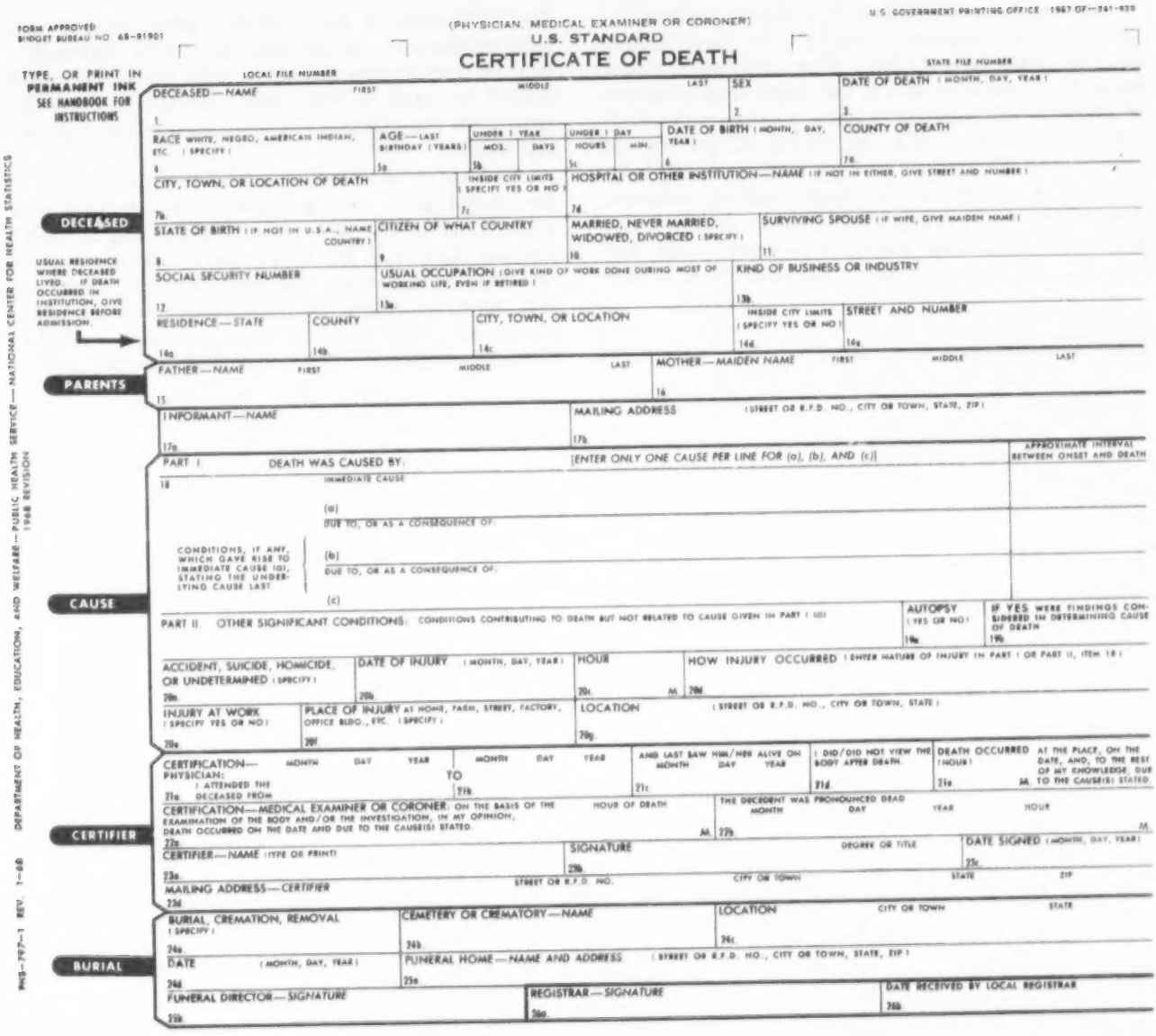
To minimize computations, the standard million was used in computing age-adjusted rates from the rates expressed in terms of 100,000 population shown in tables 1-15. In determining the standard population, no correction was made for the defect in the age distribution of the enumerated population resulting from overstatements of age in the older population. Because age-adjusted death rates are abstract values, the comparison of these figures would not be affected by any defect in the standard population.

Standard certificates of death issued by NCHS

and its predecessor offices have served for many years as the principal means of attaining uniformity in the content of the documents used to collect information on these events. They have been modified in each State according to the particular needs of the State or by special provisions of the State vital statistics law. The certificates of most States, however, conform closely in content and arrangement to the standard certificates.

Figure I is a reproduction of the 1968 revision of the standard certificate of death. It was revised in close collaboration with State health officers and registrars; Federal agencies concerned with vital statistics; national, State, and county medical societies; and others working in the fields of public health, social welfare, demography, and insurance. It was recommended to the States for adoption beginning January 1, 1968.

Appendix II. U.S. Standard Certificate of Death as revised in 1968



FORM APPROVED BUDGET BUREAU NO. 68-R1901

(PHYSICIAN, MEDICAL EXAMINER OR CORONER)

U.S. STANDARD

CERTIFICATE OF DEATH

U.S. GOVERNMENT PRINTING OFFICE: 1967 OF—741-939

TYPE, OR PRINT IN PERMANENT INK SEE HANDBOOK FOR INSTRUCTIONS

LOCAL FILE NUMBER

STATE FILE NUMBER

DECEASED

1. DECEASED—NAME (FIRST, MIDDLE, LAST)
2. SEX
3. DATE OF DEATH (MONTH, DAY, YEAR)
4. RACE (WHITE, NEGRO, AMERICAN INDIAN, ETC.) (SPECIFY)
5a. AGE—LAST BIRTHDAY (YEARS)
5b. UNDER 1 YEAR (MOS. / DAYS)
5c. UNDER 1 DAY (HOURS / MIN.)
6. DATE OF BIRTH (MONTH, DAY, YEAR)
7a. COUNTY OF DEATH
7b. CITY, TOWN, OR LOCATION OF DEATH
7c. INSIDE CITY LIMITS (SPECIFY YES OR NO)
7d. HOSPITAL OR OTHER INSTITUTION—NAME (IF NOT IN EITHER, GIVE STREET AND NUMBER)
8. STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)
9. CITIZEN OF WHAT COUNTRY
10. MARRIED, NEVER MARRIED, WIDOWED, DIVORCED (SPECIFY)
11. SURVIVING SPOUSE (IF WIFE, GIVE MAIDEN NAME)
12. SOCIAL SECURITY NUMBER
13a. USUAL OCCUPATION (GIVE KIND OF WORK DONE DURING MOST OF WORKING LIFE, EVEN IF RETIRED)
13b. KIND OF BUSINESS OR INDUSTRY

USUAL RESIDENCE WHERE DECEASED LIVED. IF DEATH OCCURRED IN INSTITUTION, GIVE RESIDENCE BEFORE ADMISSION.

14a. RESIDENCE—STATE
14b. COUNTY
14c. CITY, TOWN, OR LOCATION
14d. INSIDE CITY LIMITS (SPECIFY YES OR NO)
14e. STREET AND NUMBER

PARENTS

15. FATHER—NAME (FIRST, MIDDLE, LAST)
16. MOTHER—MAIDEN NAME (FIRST, MIDDLE, LAST)

17a. INFORMANT—NAME
17b. MAILING ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)

CAUSE

PART I. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c).)

18. IMMEDIATE CAUSE (a)
DUE TO, OR AS A CONSEQUENCE OF: (b)
DUE TO, OR AS A CONSEQUENCE OF: (c)

CONDITIONS, IF ANY, WHICH GAVE RISE TO IMMEDIATE CAUSE (a), STATING THE UNDERLYING CAUSE LAST

APPROXIMATE INTERVAL BETWEEN ONSET AND DEATH

PART II. OTHER SIGNIFICANT CONDITIONS: CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO CAUSE GIVEN IN PART I (a)

19a. AUTOPSY (YES OR NO)
19b. IF YES, WERE FINDINGS CONSIDERED IN DETERMINING CAUSE OF DEATH

20a. ACCIDENT, SUICIDE, HOMICIDE, OR UNDETERMINED (SPECIFY)
20b. DATE OF INJURY (MONTH, DAY, YEAR)
20c. HOUR (A.M. / P.M.)
20d. HOW INJURY OCCURRED (ENTER NATURE OF INJURY IN PART I OR PART II, ITEM 18)
20e. INJURY AT WORK (SPECIFY YES OR NO)
20f. PLACE OF INJURY AT HOME, FARM, STREET, FACTORY, OFFICE BLDG., ETC. (SPECIFY)
20g. LOCATION (STREET OR R.F.D. NO., CITY OR TOWN, STATE)

CERTIFIER

21a. CERTIFICATION—PHYSICIAN: I ATTENDED THE DECEASED FROM (MONTH, DAY, YEAR) TO (MONTH, DAY, YEAR)
21c. AND LAST SAW HIM/HER ALIVE ON (MONTH, DAY, YEAR)
21d. I DID/DID NOT VIEW THE BODY AFTER DEATH.
21e. DEATH OCCURRED (HOUR) A.M. / P.M. AT THE PLACE, ON THE DATE, AND, TO THE BEST OF MY KNOWLEDGE, DUE TO THE CAUSE(S) STATED.

22a. CERTIFICATION—MEDICAL EXAMINER OR CORONER: ON THE BASIS OF THE EXAMINATION OF THE BODY AND/OR THE INVESTIGATION, IN MY OPINION, DEATH OCCURRED ON THE DATE AND DUE TO THE CAUSE(S) STATED. HOUR OF DEATH A.M. / P.M.
22b. THE DECEDENT WAS PRONOUNCED DEAD (MONTH, DAY, YEAR, HOUR) A.M. / P.M.

23a. CERTIFIER—NAME (TYPE OR PRINT)
23b. SIGNATURE
23c. DEGREE OR TITLE
23d. DATE SIGNED (MONTH, DAY, YEAR)
23e. MAILING ADDRESS—CERTIFIER (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)

BURIAL

24a. BURIAL, CREMATION, REMOVAL (SPECIFY)
24b. CEMETERY OR CREMATORY—NAME
24c. LOCATION (CITY OR TOWN, STATE)
24d. DATE (MONTH, DAY, YEAR)
25a. FUNERAL HOME—NAME AND ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)
25b. FUNERAL DIRECTOR—SIGNATURE
26a. REGISTRAR—SIGNATURE
26b. DATE RECEIVED BY LOCAL REGISTRAR

PHS—707—1 REV. 1-68 DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE—PUBLIC HEALTH SERVICE—NATIONAL CENTER FOR HEALTH STATISTICS 1968 REVISION

Figure I. U.S. Standard Certificate of Death as revised in 1968

Appendix III. Changes in smoking patterns

Studies have established that the sex differential for smoking decreased during the past several decades. Male cohorts born after 1900 successively began to smoke at an earlier age. Large-scale adoption of cigarette smoking by women did not occur until the 1920's and 1930's. By 1955, 32 percent of women and 65 percent of men were smoking.[1] By 1978, 37.4 percent of men were cigarette smokers, down from 43.5 percent in 1970. In contrast, the proportion of female smokers 17 years of age and over was 30.4 percent, about the same as in 1970.[3] The 1978 estimate was the lowest proportion of cigarette smokers as a group since the 1950's. Differences in male and female mortality rates for some causes related to smoking have been reported to be correlated with the difference in smoking patterns for men and women.[1]

The earlier studies also established that as late as the mid-1950's, the proportion of smokers was approximately the same among white and all other persons. Recent NCHS data confirm that this pattern remained substantially the same through 1978. At that time, an estimated 33.4 percent of the white population were smokers compared with a slightly higher proportion (36.2) of the black population.[3]

NOTE: A list of references follows the text.

*U.S. GOVERNMENT PRINTING OFFICE: 1982--364-748/7294

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